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MILL SUPPLIES

Vol. IX An Independent Monthly Journal Devoted to the Interests of the Jobbers and Manufacturers of Mill, Steam, Mine and Machinery Supplies No. 3

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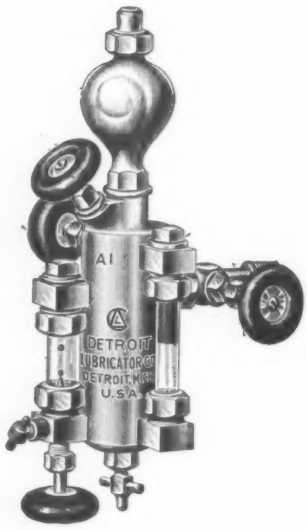
DETROIT LUBRICATORS



Have Given Satisfaction For Forty Years

Built in a sufficient variety of styles to lubricate properly every type of steam engine, pump, gas engine, air compressor, etc.

Send today for catalog L-1. The information on lubricating devices contained in it will be valuable to you.

TRADE MARK REG. U.S. PAT. OFF.

Their Efficiency Holds Over Half the World's Trade

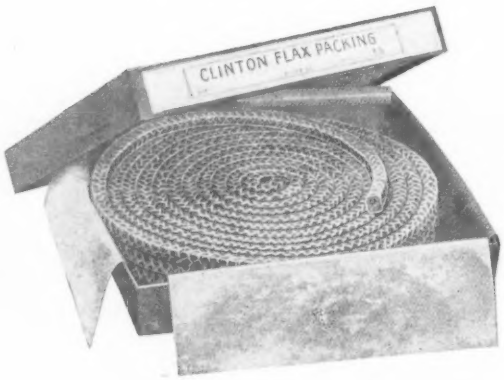
Makers of the Stewart Carburetors

DETROIT LUBRICATOR COMPANY
DETROIT, U. S. A.
CANADIAN DETROIT LUBRICATOR COMPANY, LTD. WALKERVILLE, ONTARIO.

CLINTON PACKINGS

FLAX :-: JUTE :-: ASBESTOS

Insist on the
GENUINE
CHEAPER in the end than
SUBSTITUTES



Results from
CLINTON
For 50 Years
best Guarantee of
QUALITY

Secure the Agency for "CLINTON" Goods in Your Territory

CLINTON MANUFACTURING CO.
84 Grand Ave., Brooklyn, N. Y.

THE ARTERIES OF YOUR PLANT

RELIANCE

Reliance Leather Belting

are the belts connecting engine room and machinery. They cannot be too good.

Any waste of power or interruption in the transmission of it, costs more than could ever be saved by using substitutes for leather belting.

Every dollar we put into the making of Reliance Leather Belting returns a profit to the user.

In making this belting, we use only a small strip from the center of selected hides. We allow six to eight months for tanning by the Oak Bark Method.

Over a quarter of a century of experience and skill goes into the manufacturing processes. The result is belting which outlasts the pulleys.

GUARANTY

We guarantee Reliance Belting against all defects in stock and construction and will repair or replace any belting found defective, without charge and without controversy.

Chicago Belting Company

New York
Cleveland
Rockford, Ill.
New Orleans

119 North Green St.
CHICAGO, ILL.

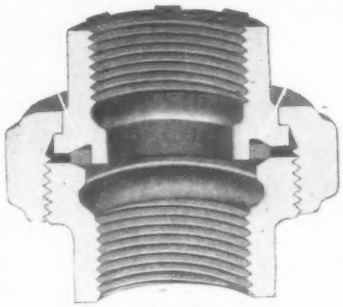
Los Angeles
San Francisco
Portland, Ore.
Seattle, Wash.

LIMESTONE PULLEYS

The Ohio Valley Pulley Works, Inc.

Maysville, Ky.

Pulleys Exclusively for 33 Years



Made of Heavy Pattern Air Furnace Malleable Iron

"SATISFIED"

That Is What You Will Say After Trying

C. D. RAILROAD UNIONS

The Unions With the Brass Valve Seated Disc

UNIONS THAT CANNOT LEAK NO GASKETS REQUIRED

DURABLE, ECONOMICAL AND SAFE

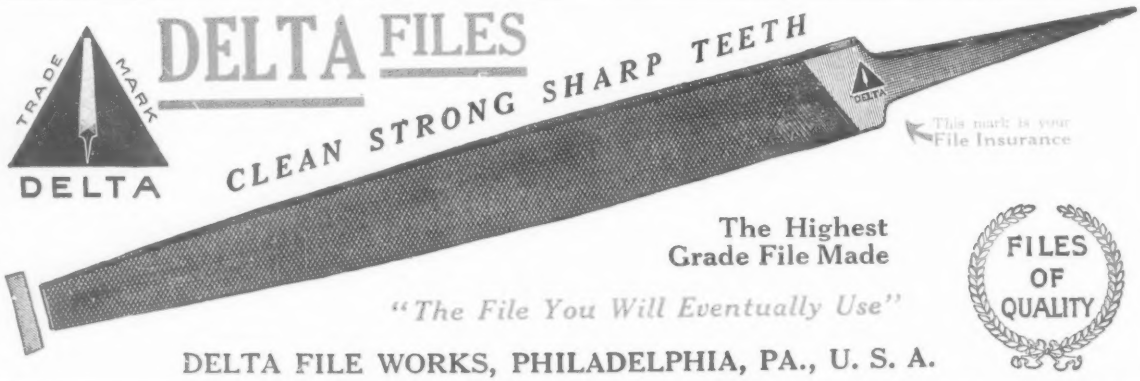
ILLINOIS MALLEABLE IRON CO., CHICAGO, ILL.

Manufacturers of a Complete Line of MALLEABLE AND CAST IRON PIPE FITTINGS Write for Catalogue

For Sale by C. J. RAINEAR & CO., Philadelphia, Pa.

DELTA FILES

TRADE MARK DELTA



This mark is your File Insurance

The Highest Grade File Made

"The File You Will Eventually Use"

FILES OF QUALITY

DELTA FILE WORKS, PHILADELPHIA, PA., U. S. A.

Pioneer American Manufacturers

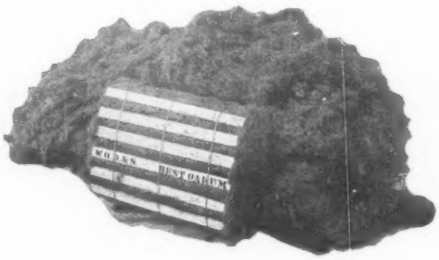
W. O. Davey & Sons

The Only Daveys in the Business

Friction Board and Oakum

70 Years of time-tested, time-proven QUALITY are back of every piece of goods bearing the DAVEY stamp

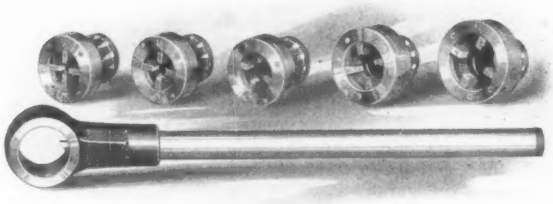
Davey's guarantee means satisfaction or your money back.



You are assured you are giving your customers the BEST when you sell them DAVEY'S goods. You protect yourself, at the same time, against "kicks" and "sore," dissatisfied trade. Try us with a sample order—your others will follow.

W. O. DAVEY & SONS, 164 Laidlaw Ave., Jersey City, N. J.

LEIGH H. DAVEY, President **E. S. DAVEY, Secretary** **Wm. O. DAVEY, Treasurer**



A sign you can believe in

"TOLEDOS' ARE WONDERFUL"

So one "Toledo" user expressed the sentiment of hundred of thousands of other "Toledo" owners. "Toledos" are truly wonderful. No other pipe threaders can compare with "Toledos" for simplicity, durability, compactness and ease of operation.

Every "Toledo" sale means a satisfied customer.

The No. 00, 1/8" to 3/4" ratchet threader, illustrated here, is a remarkably simple, compact and efficient little tool. Thousands are in use today.

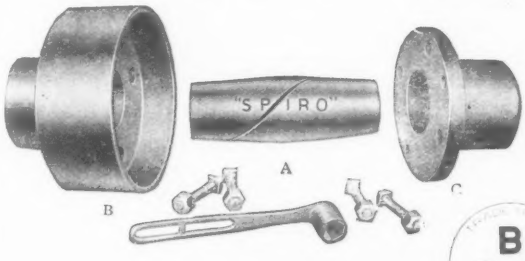
We will be glad to send catalogue and discounts on request.

THE TOLEDO PIPE THREADING MACHINE CO.
TOLEDO, OHIO

NEW YORK OFFICE: 50 CHURCH ST. 369 HUDSON TERMINAL

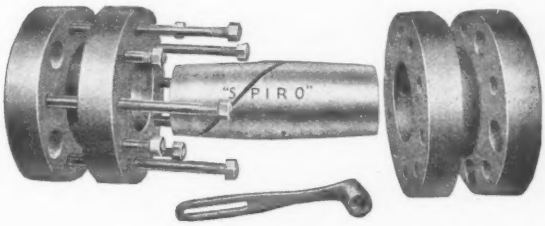
"SPIRO Shaft Couplings"

are a transmission specialty that should be found in every mill supply house that aims to carry a complete and up-to-date stock.



B D-S BOND DOUBLE-SURE QUALITY

Spiro Couplings have tremendous gripping power, due to the spiral slot cut in the sleeve. When the sleeve is placed over the ends of the shaft and the two flanges brought together over it and bolted, no power that can be applied to the shaft can ever loosen or break it. They do away with keys and key seating. Double flange Spiros are designed for large shafts, 2 15/16 and above.



Free Booklet

Every mill supply house not selling "Spiro" couplings is requested to write for a free copy of a booklet that contains some extremely useful and interesting information on transmission appliances—information that will enlighten you on many points. Write for a copy today.

BOND FOUNDRY & MACHINE CO., MANHEIM, Lancaster Co., PA.

ASSOCIATED COMPANIES

Charles Bond Company, Philadelphia, Pa.
Christiana Machine Company, Christiana, Pa.
J. & G. Rich Company, Philadelphia, Pa.
Bond Engineering Works, Limited, Toronto, Canada

EASY WORKING
DIE STOCKS
1/8 TO 12 INCH

BEAVER

SQUARE END
PIPE CUTTERS
1/8 TO 6 INCH

DURING the War, it was our rare privilege and honor to serve, ***almost exclusively,*** the tremendous demands of The United States Government for dependable, rapid-working tools for cutting and threading pipe.

Because of their unequalled simplicity, convenience and strength, ***BEAVER EASY-WORKING TOOLS*** proved best qualified to meet the herculean demands of warfare.

Today—in PEACE—our personal skill and ***experience,*** our modern mechanical equipment—in fact ***all that we possess***—will be concentrated upon winning the constructive victories of PEACE.

After almost two years of War Service, the BEAVER organization is again at liberty to serve YOUR requirements—which we believe will be quite large, for the United States is undoubtedly at the very threshold of a prosperous era of great building and industrial activity.

THE BORDEN COMPANY
Manufacturers of HIGH-GRADE TOOLS for CUTTING and THREADING PIPE
WARREN, OHIO, U. S. A.
SOLD BY ALL LEADING SUPPLY HOUSES

OVALHOLE

An Agency Proposition

A Patented Specialty.

"Ovalhole" Hollow Center Packing is the latest improvement in packings and is fully protected by United States Patents. Its unique construction and perfect mechanical principle attract immediate attention of engineers and mechanical men and provide your salesmen an opening wedge for new business.

One Packing for All Requirements.

Instead of increasing your stock of packings "Ovalhole" enables you to reduce it to a minimum. "Ovalhole Packings" mean specialized service and will successfully take care of practically every known packing requirement.

Exclusive Selling Agency.

"Ovalhole" agencies have absolute protection in their respective territories as "Ovalhole" is sold only through the jobber and through only one jobber in a city.

Co-operation with the Jobber.

A broadminded selling plan that provides real honest-to-goodness help to "Ovalhole" Agencies and includes the personal selling assistance of an expert packing salesman from our organization.

Advertising Your Business.

Intensified direct mail advertising campaigns directed entirely for the benefit of the jobber. All advertising matter and literature carries your name only.

From the Standpoint of PROFIT.

It is sometimes said that volume is the "big noise," but we believe you will agree with us that profit is the "sweet music." The sale of a few boxes of "Ovalhole" is sometimes more profitable than a carload of pipe.

Small Stock Investment.

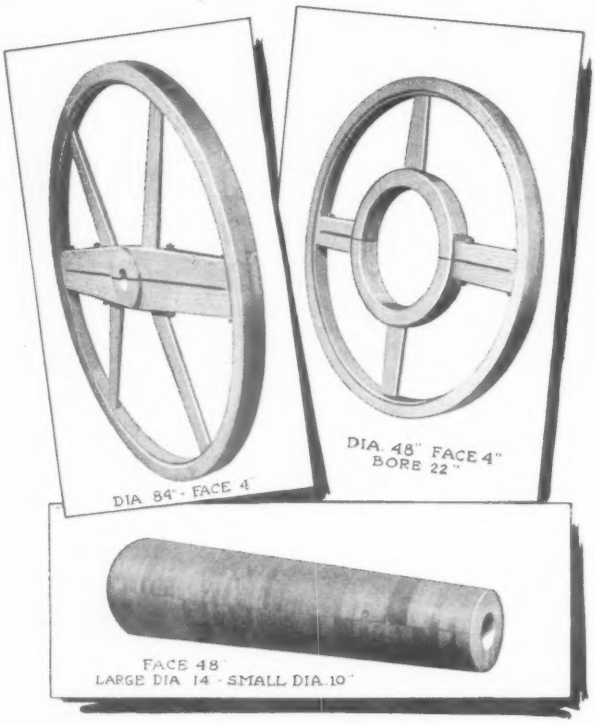
"Ovalhole" agencies are only required to carry a sufficient stock to take care of the demand. As a specialized material it eliminates the necessity of carrying a large miscellaneous stock of various brands.

You Can't Lose.

We safeguard you against a "dead" investment by contracting to take back at the invoiced price any of your initial stock if you do not find it a good selling proposition or if for any other reason you find the agency undesirable.

Sixty-one mill supply jobbers in sixty-one of the largest trade centers of the United States, Canada and Cuba are now handling "Ovalhole" Hollow Center Packing. Their indorsement warrants your investigation.

THE HOLLOW CENTER PACKING CO.
1276 WEST THIRD STREET
CLEVELAND, OHIO.



PULLEY FREAKS

Any Size Any Shape
Big Bore Little Bore

From the "hoop-snake" to the cannon-barrel" variety. The built-up segmental design of "The Reeves" Pulley permits the construction of freak and distorted pulleys of all kinds and still retains the same degree of strength and reliability as found in the Standard REEVES Wood Split Pulley.

It matters not how freakish a design of pulley a customer may want, "The Reeves" agent never worries, for, if its anything for a belt to turn on, "The Reeves" can build it and deliver it promptly.

Be a REEVES agent and watch your business grow

REEVES PULLEY COMPANY

Chicago Branch: Cor. Clinton & Monroe Sts.

OSBORN

THIS BROOM

WILL CUT YOUR BROOM BILL IN HALF

IT WILL OUTWEAR at Least Two of the Brooms You Are Now Using and Costs No More

Made of a different material and in a different way. Holder and filler separate.

Holder is permanent—will last a lifetime with ordinary use.

Filler made of Bahia—different from Bassine. Bahia is a stiff, strong, wiry fibre chocolate in color. Especially treated in oil—will not dry nor rot.

"Edlund" brooms are made for heavy sweeping and are suitable for use about factories, warehouses railroads, ships and docks. They wear down evenly. When worn out discard old filler first slipping down the ring, then insert new filler and push ring back in place. This tightens the clamp, fastening the new filler securely and as firm as a one-piece broom. Only one holder needed for each sweeper.

Large buyers can take advantage of their buying power by purchasing "Edlund" brooms in large quantities because they will not deteriorate as do corn brooms.

Storage space is also saved; as "Edlund's" require about one-half the space as do upright brooms, due to the fact that fillers are packed in fibre board cartons.

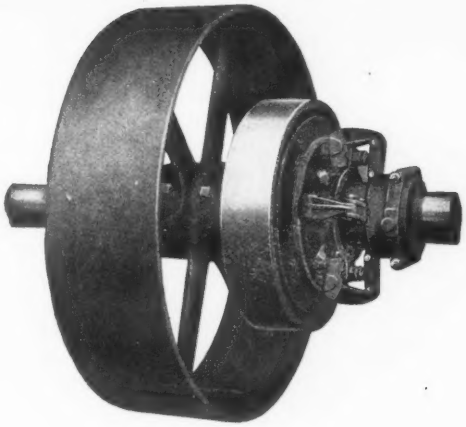
Consider "Edlund's" and write our nearest branch for quotations.

THE CLEVELAND OSBORN MANUFACTURING CO.
INCORPORATED

Formerly The Osborn Manufacturing Co.

5401 Hamilton Avenue, Cleveland

Milwaukee 259 So. Water St. **BROOKLYN, N.Y.** 3rd Ave. at 35th St. Bush Terminal Bldg., No. 5 **Chicago** 155 No. Clark St. **Detroit** 94 McDougall Ave. **San Francisco** 61 First Street



ELIMINATES THE EXPENSE OF SPECIALLY CONSTRUCTED PULLEYS

The Universal Giant Friction Clutch eliminates all the bother—expense—and delay of making up special pulleys.

It is made so that any ordinary pulley, gear, rope sheave or sprocket of regular dimensions can be used simply by slipping on sleeve and keying to place—all done in a few minutes time.

THE T. B. WOOD'S SONS CO. LINE

OF POWER TRANSMISSION MACHINERY

is the result of intimate experience with the conditions which every manufacturer is daily called upon to meet. For 61 years our engineers have concentrated their attention upon transmission problems—and transmission problems alone.

Our service embraces everything from a careful analysis of the requirements in each particular case to furnishing at a reasonable price the equipment your customer can most economically use.

A Special Service for Jobbers and Dealers

If you are a jobber or dealer you will be interested in getting details of our Engineering Service Department, whose co-operation is instantly available to you without cost.

On any installation which is difficult to figure—or to determine exactly what is required—the assistance of our experts is sure to help you make your sale. Write for particulars today.

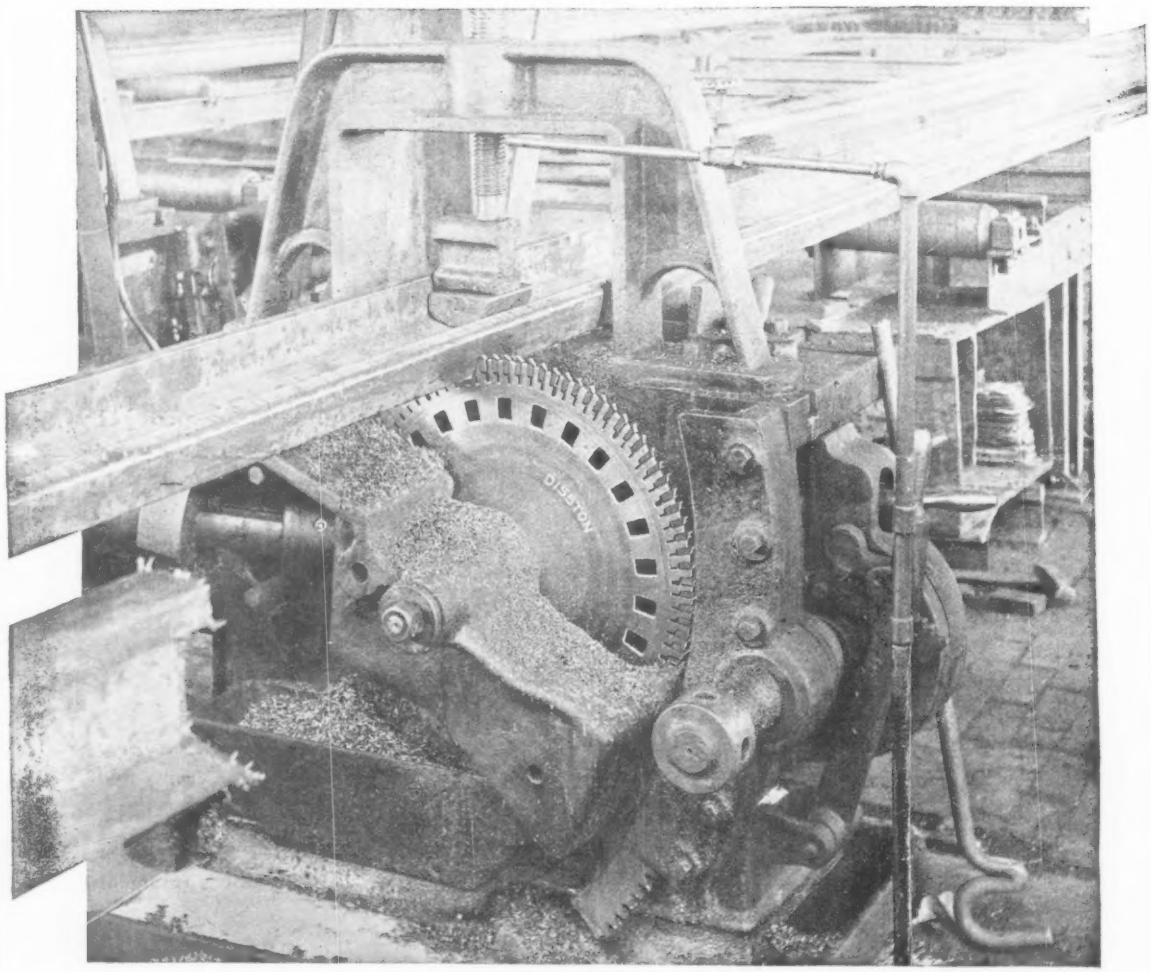
T. B. Wood's Sons Company

Manufacturing Engineers

CHAMBERSBURG, PENN.

DISSTON INTERLOCKED

INSERTED TOOTH CIRCULAR MILLING SAW

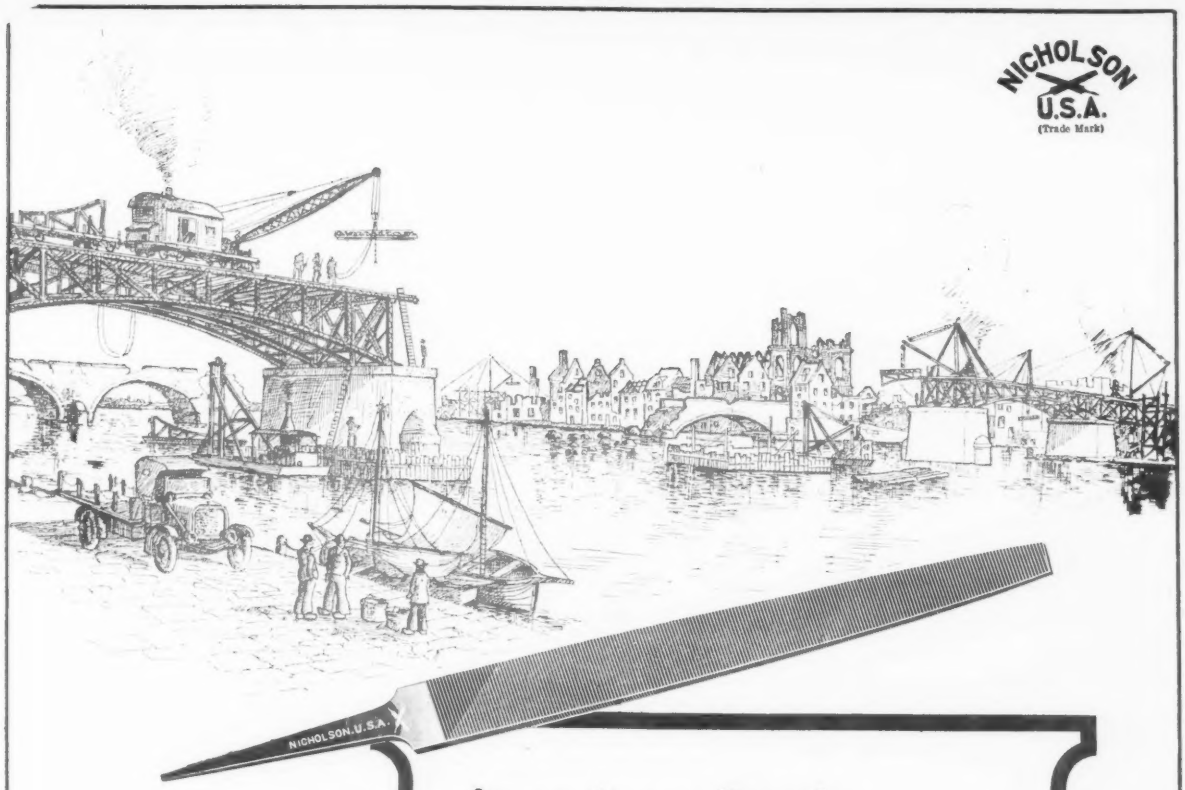


Sawing a bunch of material steel slabs—giving highest service in the way of output and keeping cost at minimum.

Send for descriptive booklet of Disston Metal Cutting Saws—the most efficient types made.

HENRY DISSTON & SONS, Inc.
KEYSTONE SAW, TOOL, STEEL & FILE WORKS
PHILADELPHIA, U. S. A.

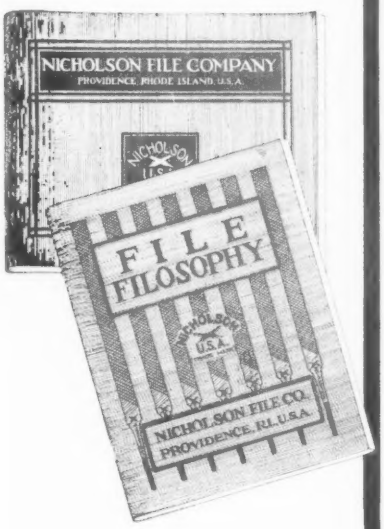
When writing to Advertisers please mention MILL SUPPLIES.



American Steel Rebuilds the Bombed Bridges of France

Spanning her blood bought rivers, new bridges reach their steel meshed arms from either shore and meet in a grip to France Redeemed.

America's shops have a world wide work of destiny repairing the ravages of many a stricken field—renewing the halted pace of world advancement.



NICHOLSON FILES

will contribute as splendidly to reconstruction as they did to the waging of victorious war—the Files that cut the FASTEST and SMOOTHEST.

Write for our catalogue, "File Filosophy"—a fifty-years' education in Files and Filing in an hour's reading.

Nicholson File Company

Providence, Rhode Island, U. S. A.

What This Trademark Means to You

The Pyott trade mark was originated years ago. It was the sign of cast iron pulleys made of the best material possible, and accurately finished by experienced machinists. The Pyott Pulley is recognized as the standard for accuracy and durability. As time passed, PYOTT CO. expanded their line of products, ever keeping up the high standard of quality, until they now manufacture a complete line of power transmission appliances second to none.

DEALERS: The Pyott line is a safe line for you to carry. When you sell and back by your reputation appliances bearing the Pyott trade mark, you are supplying your trade with the best, most economical Power Transmission Equipment on the market today.

Write for a real dealer proposition

PYOTT CO.

North Ave. and Noble St., Chicago, Illinois

Good Valves are Always in Demand

O-B J. D. Globe Valve Standard Pattern. 150 lbs. working steam pressure. One of the "Quality First" line.

Therefore you should keep Good Valves in stock.

The O-B threefold system of checking produces Good Valves:

Chemical analysis of the material by expert Metallurgists.

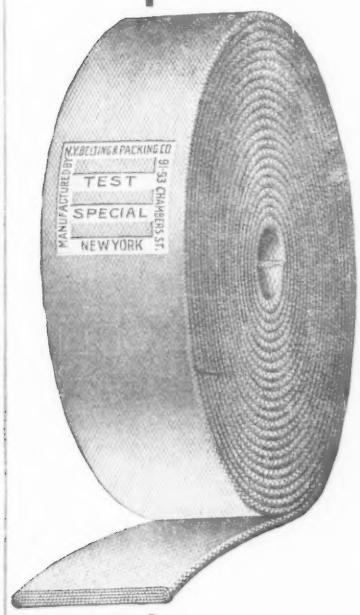
Individual inspection of each part before assembly.

Final hydraulic test of **each** valve to insure its quality.

Our "Quality First" Line also includes Radiator Valves, Pressure Regulating Valves, Gate Valves, Lock-Shield Valves for Gas Service and many other styles of Globe, Angle and Check Valves.

The Ohio Brass Company
Mansfield, Ohio

TEST SPECIAL RUBBER BELTING



With every industry crowded to capacity, equipment must be maintained at highest efficiency.

TEST SPECIAL Rubber Belting stands up to its work—will render adequate service on high speed machinery, the real measure of belting worth.

TEST SPECIAL Rubber Belting is uniform in construction—always runs true—non-stretching—unaffected by changes in temperatures—the friction surface grips with bull dog tenacity.

There are many other vital features you should know about. Write us fully on your requirements.

New York Belting & Packing Co.

Manufacturers of

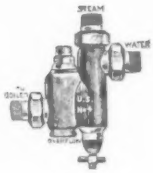
Mechanical Rubber Goods

Rubber Belting - Packing - Hose - Pump Valves

NEW YORK...91-93 CHAMBERS STREET
CHICAGO..124-126 WEST LAKE STREET
ST. LOUIS...218-220 CHESTNUT STREET
SAN FRANCISCO..519 MISSION STREET
PITTSBURGH.....420 FIRST AVENUE
PHILADELPHIA..821-823 ARCH STREET
BOSTON.....65 PEARL STREET

NEW YORK BELTING & PACKING CO. FOUNDED 1846 INCORPORATED 1856

American Injector Co.

DETROIT  MICH.

Get Our Prices Before Putting in Your Stock Order

Engineers' Red Book Free for Asking

There's Money In This For You

Wherever power transmission equipment is sold, there is a market for friction clutches. The dealer who is not selling them is not making the most of his territory.

Hilliard Friction Clutches are a specialty you need not carry in stock. No capital tied up. We furnish cuts for your catalog and circular matter that will help you make sales. Our engineering department will answer all questions your customers ask and give advice on what clutches to use and their installation and devise special clutches when necessary.

In many of the smaller cities we want live supply dealers as distributors. We will work with you and your salesmen and help you make it profitable. Ask us for more of the details.

HILLIARD CLUTCH & MACHINERY CO., ELMIRA, N.Y.

Armstrong Tools

Easy to Sell and They Stay Sold

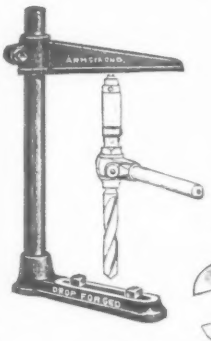
A QUALITY LINE

The Name and Trade Mark on which is universally accepted as the best guarantee of Tool Excellence.

A GOOD LINE *for* THE DEALER

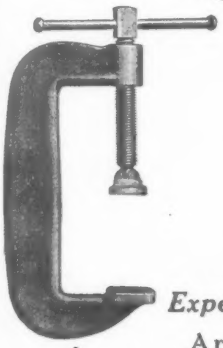
No Experiment *No Come Backs* *No Kicks*

TOOL HOLDERS



For Turning, Boring, Cutting Off, Planing, Drilling, Slotting and Threading Metals. All Kinds—All Sizes.

Grand Prize Winners at the Panama-Pacific Exposition



Drop Forged Wrenches Lathe Dogs "C" Clamps and Ratchet Drills

Experienced Dealers Say:

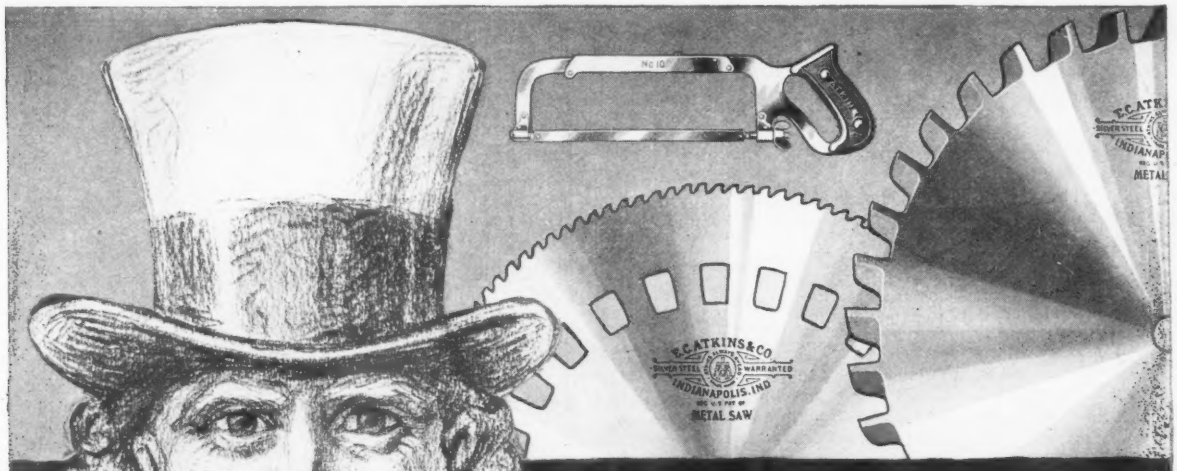
Armstrong Tool Holders Make US Profit *and* the "Just as Good" Kind Make US Trouble.

Write for New Catalog B-16

ARMSTRONG BROS. TOOL CO.

"The Tool Holder People"

305 N. Francisco Ave. CHICAGO, U. S. A



Atkins Metal Cutting Saws

We are proud to say that Atkins Metal Cutting Saws and Tools served Uncle Sam so efficiently Over Here and Over There during the great War.

THEY WERE VICTORY SAWS

and tools. Used almost exclusively by the great armies of the United States Government.

Write for descriptive literature of our Metal Products and you'll soon learn why it's

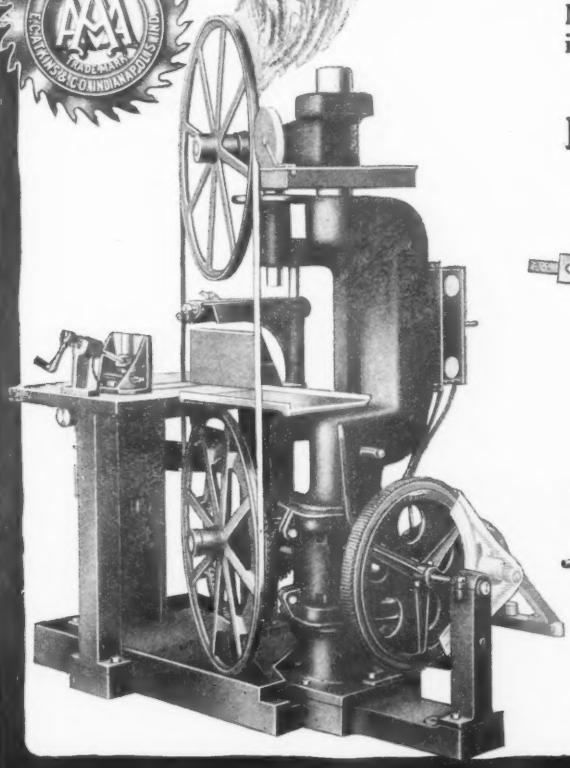
ATKINS ALWAYS AHEAD

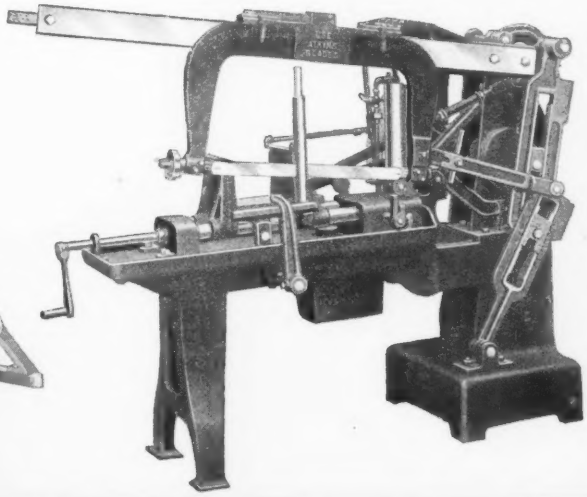
E. C. ATKINS & CO., Inc.

Established 1857

Home Office and Factory

Indianapolis, Indiana, U. S. A.





"NUBIAN" Solid Woven Belting

FOR ALL DRIVES ELEVATING and CONVEYING

The Material

The yarn used is made from the best grade o. long fiber cotton. Cotton gives strength, flexibility and elasticity.

The Weave

Empire "Nubian" Belting is woven on heavy multiple harness looms that thoroughly bind the several warp sets together, producing a belt of the utmost density and strength.

The Treatment

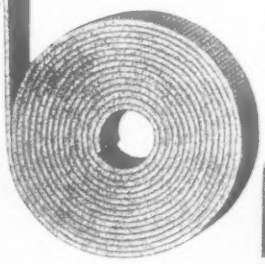
After leaving the looms, it is subjected to a hot filling treatment of oils and gums which makes it absolutely waterproof. The strength of every fiber is permanently preserved.

The Finish

is a black coating, which gives the belt a durable and pulley gripping surface, as well as adding to its appearance.

Empire "Nubian" Belting

is free from the usual belt annoyances. Guaranteed to give good service. Replaces rubber and leather. No plies. N: cement. Transmits power, conveys and elevates. Does not dry out or harden. An excellent belt for mill supply dealers to stock. Write for prices and samples. Made in U. S. A. by



EMPIRE MFG. CO.
97 Spring Street,
LOCKPORT, N.Y. U.S.A.

GEARS

SPUR BEVEL
MITER WORM
MORTISE WHEELS

WITH CUT OR MACHINE MOLDED TEETH

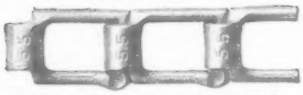
Made of Cast, Iron
Semi-Steel,
Cast Steel,
Steel Forgings,
Bronze and
Rawhide

We have the most complete line of gear preparations and patterns in the country.

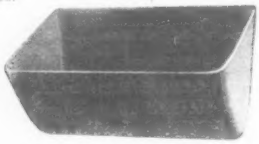
Let us quote you prices.

H. W. CALDWELL & SON CO.
17th Street and Western Avenue Chicago

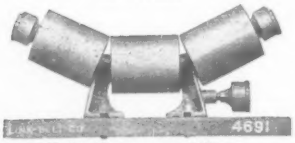
LINK-BELT
INDUSTRIAL EQUIPMENT



Ewart Detachable Link-Belt
A good strong, reliable form of Link-Belt for light and medium service. Adapted to a wide variety of uses.



Malleable Iron and Steel Buckets
Any size, style and shape, for all classes of elevator systems. Ask for details.



Belt Conveyor Idlers
Furnished in many sizes and types, with or without stands, to handle light or heavy materials.

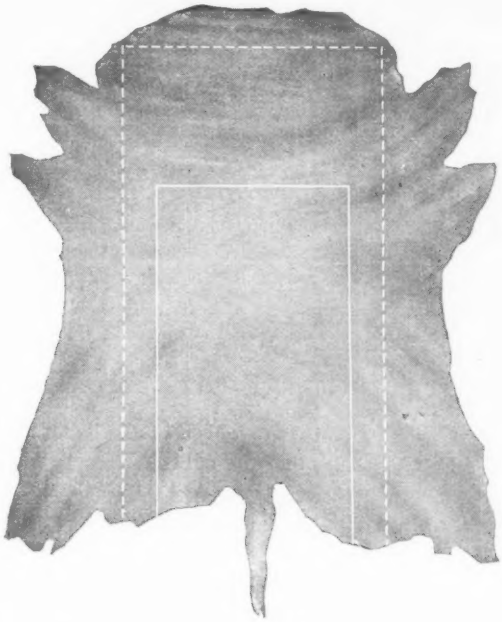
THE scope of Link-Belt labor saving equipment is so great that there is no line of industrial activity which cannot be made more efficient, more productive, and operated more economically, by the adoption of Link-Belt devices.

This condition was true before the war. Now the value of Link-Belt equipment to any manufacturer is infinitely greater. That equipment includes all classes of conveying and elevating machinery, electric hoists, locomotive cranes, coal and ash handling systems, mining equipment, coal storage systems, water-intake traveling screens, all types of conveying and power transmission Link-Belt, sprocket wheels, silent chain drives, etc.

We maintain a large staff of engineers at each of our plants, who will gladly render you advice and assistance in bringing your plant up to the highest possible degree of mechanical efficiency in the handling of your product, and transmission of power. Address nearest office.

LINK-BELT COMPANY
PHILADELPHIA CHICAGO INDIANAPOLIS

"It is Less Costly to Buy a Good Belt than to Suffer from a Poor One."

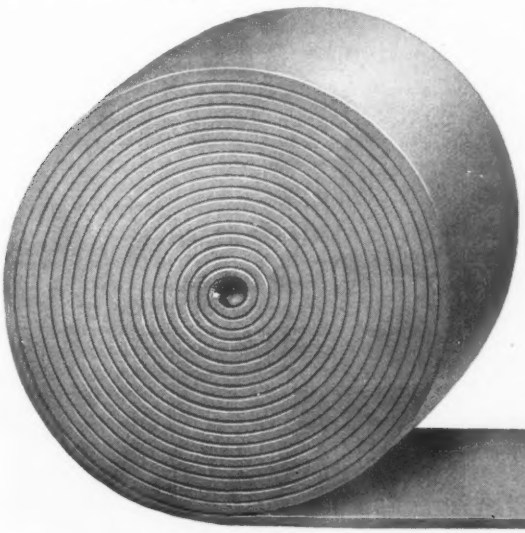


Machines cannot make leather belting. Machines are only tools requiring human guidance.

If a thousand hides should be photographed like the one above, no two would be exactly alike, either for size or thickness. And that is why it takes trained men to make unstandardized material into belting which will be uniform and reliable.

Jewell Belting

is made by men so experienced that their judgment of leather is second nature, with a skill in handling it which can come only from years of training. The best possible belting can result only from the best materials, perfectly processed, and fashioned by men of consummate skill. That is Jewell. There is a strength for every drive, and a form for every purpose. Please write us.



Jewell Belting Co.

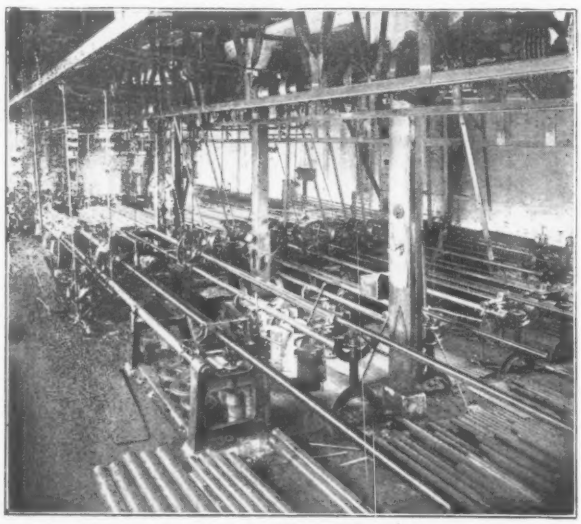
Hartford, Connecticut

Chicago Branch
2837 So. La Salle St.

New York Office
2 Rector St.

MEDART

Turned and Polished
STEEL SHAFTING



Battery of "Medart Made" Automatic Turning Machines in our Mill where Medart Turned and Polished Steel Shafting is manufactured

MEDART Shafting is made of a special grade of steel, particularly adapted for shafting purposes, is perfectly straight, true to size and highly polished.

Our prestige as shafting manufacturers has, to a considerable extent, been gained due to the popular merit and wide use of our Machines for turning, straightening and polishing brass, bronze and steel round bars.

These machines, which we have been building for twenty odd years, and which are in use today in the plants of industries like Bethlehem Steel Company, Buffalo Copper & Brass Rolling Mills, Cambria Steel Company, Carpenter Steel Company, Central Steel Company, Chase Metal Works, Crucible Steel Company of America, General Electric Company, Jones & Laughlin Steel Company, Pennsylvania Shafting Company, and in many other equally as well known plants, were originally designed by Mr. Philip Medart for use in our own Bar Finishing and Shafting Mill, and we have been able to determine under actual working conditions wherein improvement might be made or design bettered. This has resulted in machines of proven performance, and, in consequence, we are today producing an exceptionally high grade of Turned and Polished Steel Shafting.

Our own improved process of manufacture consists of turning with our own make automatic shaft turning machines, and rolling, polishing and straightening with our own make automatic shaft and bar straightening machines, which produces shafting of superior finish and strength.

All shafting, sizes 1-3/16" to 6", both inclusive, is turned and polished by our own improved process described above. Ends of bars are faced and chamfered. All orders for sizes 3/16" to 1-1/8", both inclusive, are filled with cold rolled steel shafting. We can furnish hammered steel shafting in sizes larger than six inches.

New Equipment has been added to our cutting department, which enables us to fill orders containing a great number of short pieces of odd lengths very promptly.

You dealers who are in need of replenishing your shafting stocks should not fail to consider "Medart" Turned and Polished Shafting. With very large finished stocks constantly on hand, we are prepared to promptly fill orders for car lots at a time or less—standard sizes 1-3/16" diameter to 6" inclusive, many odd sizes within this range, and standard lengths. Submit your specifications, and we will quote you as attractively as will any other manufacturer of shafting.

ASK FOR OUR SHAFTING DATA BOOKLET No. SH-2—FREE ON REQUEST—IT'S USEFUL.

Medart Line Shafting Equipment

OUR excellent special facilities for promptly keyseating Shafting and for furnishing Shafts fitted with Flange Couplings, Compression Couplings, Jaw Couplings or Friction Clutch Couplings, should prove a distinct advantage and convenience to dealers needing to purchase Line Shafting Equipment—whether only fifty feet or several thousand feet of Shafting are involved.

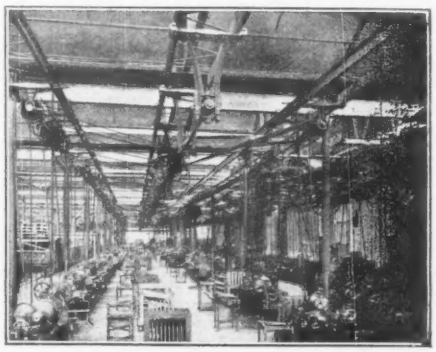
When ordered fitted, Flange Couplings are bored scant and are forced on shafts with heavy hydraulic pressure, after which complete line is placed upon live rolls and tested at high speed, insuring a perfectly true running line before leaving our factory.

We emphasize that it should be to your great advantage to purchase your complete Power Transmission Equipment—Shafting and all other appurtenances which are used in connection with shafting, like Couplings, Collars, Hangers, Bearings, Base Plates, Floor Stands, Friction Clutch Pulleys, Friction Clutch Cut-off Couplings, Gearing, Rope Sheaves or Rope Drives Complete, Cast Iron Pulleys, Steel Rim Pulleys, Wood Split Pulleys, etc., from one source of supply—from "Medart" at St. Louis.

And you should bear in mind that because we MANUFACTURE Shafting—(all other exclusive builders of Power Transmission Machinery JOB their shafting)—we have a big competitive advantage where the equipment to be purchased involves shafting, in quoting prices that will save you some money.

For each transmission need, we have a product which individually, as with our whole line, stands on its performance. We are exceptionally well fitted to make quick shipments of your orders.

Send for our General Catalog No. 26 and Supplement No. 1A, if you haven't these editions on file. For discounts applying to List Prices covering our appliances, refer to Discount Schedule, now in your possession, or if you fail to locate same, we will be pleased to send t on your request.



Typical "Medart" Line Shafting installation in one of Cincinnati's largest Tool Works

MEDART PATENT PULLEY COMPANY

For 40 years manufacturers of the most complete line Power Transmission Machinery

Engineering Sales Offices
PHILADELPHIA
CHICAGO

Main Office and Works
ST. LOUIS, U. S. A.

Office and Warehouse
211 Vine Street
CINCINNATI

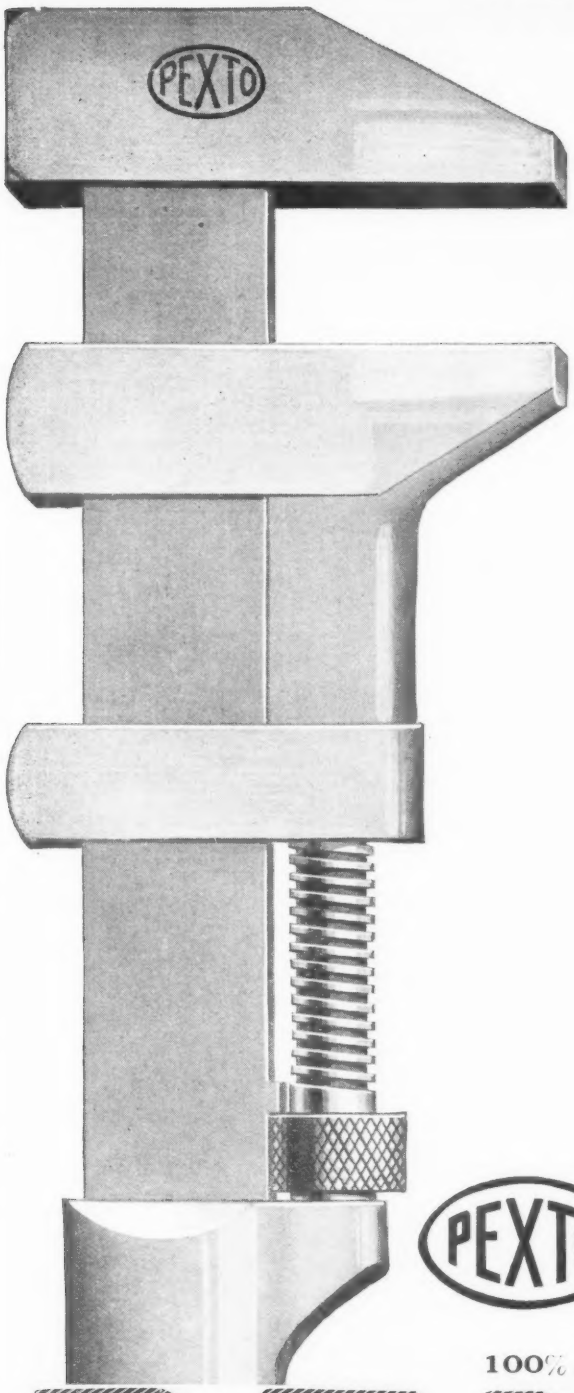
What more need we say?.... than–
Clean Quality and Trouble Free,
CHARLOTTE Leather Belting

CHARLOTTE LEATHER BELTING COMPANY
CHARLOTTE, NORTH CAROLINA

WESTERN DISTRIBUTING CENTER AND WAREHOUSE
337 WEST MADISON STREET
CHICAGO

© 1919 BY CHARLOTTE LEATHER BELTING CO.

IN an industry where invention and specialties do not play a large part, the intrinsic value of the line depends wholly upon the honesty of the manufacturer and his desire to give good value. We do not claim any special dexterity or secret methods, but we do claim that Charlotte Leather Belting is made with that care and honesty of purpose which produces a uniform quality unexcelled by other makers. We call it "Clean Quality."



The Pexto Solid-Steel No. 300 Wrench

Pexto Catalog 1417 says:

"No monkey wrench ever made has the lasting qualities and durability of this Solid Steel Wrench."

Engineers and skilled mechanics by critical tests have proved the truth of this.

The reason is clear: *only three parts* are used in its construction. These are first, the head, bar and handle forged solid from one piece of steel, second, the sliding jaw, and third, the screw which moves the jaw on the bar of the wrench.

This is why years of hardest usage on the heaviest of shop-work finds the Pexto No. 300 ready as ever for the next big job.

Simple construction (fully protected by patents) is largely responsible, but the Pexto Quality that's built into this, and all other Pexto Tools, explains the remarkable *lasting power.*

For the mechanic in every field there are Pexto Tools of quality and construction which cannot be surpassed.

If your dealer cannot supply you, write us direct.

The Peck, Stow & Wilcox Company

Mfrs. Mechanics' Hand Tools, Tinsmiths' and Sheet Metal Workers' Tools and Machines, Builders' and General Hardware

Southington, Conn. Cleveland, Ohio

Address correspondence to 220 W. Center St., Southington, Conn

PEXTO

100% American for 100 years. (Founded 1819)

PEXTO

MECHANICS' HAND TOOLS

A Lever Long Enough—A Proper Fulcrum and You'll Move the Earth

THE same forward policy which shaped the Goodrich Sales Force nearly half a century ago, is here today. Now, as then, Goodrich have made Quality the lever and Goodwill the fulcrum, and the fame of their rubber products is known around the world.

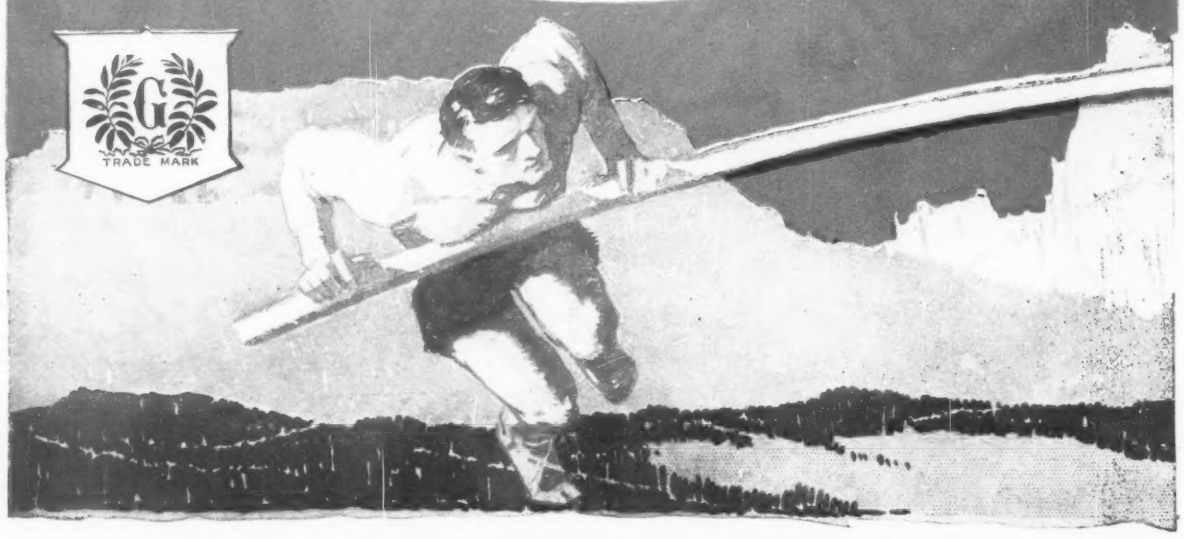
Everything that good rubber belting should do, Goodrich make it do. Cover, Special Edge Construction, Sturdy Fabric, and Long Lived Friction are reasons for the many records of long service that Goodrich belting holds in The Mining Field, The Grain Trade, The Oil Industry, The Paper Mill Industry, and wherever there is hard Belt work to be done.

"LONGLIFE" Conveyor Belting, and "COMMANDER" Transmission Belts are known as helpers to "Continuous operation at less ton cost" all over the country.

When next you contemplate Belting renewals, why not consult with Goodrich experts. Their service is without obligation and may save time and money.

THE B. F. GOODRICH RUBBER COMPANY

The City of Goodrich—AKRON, OHIO



GOODRICH

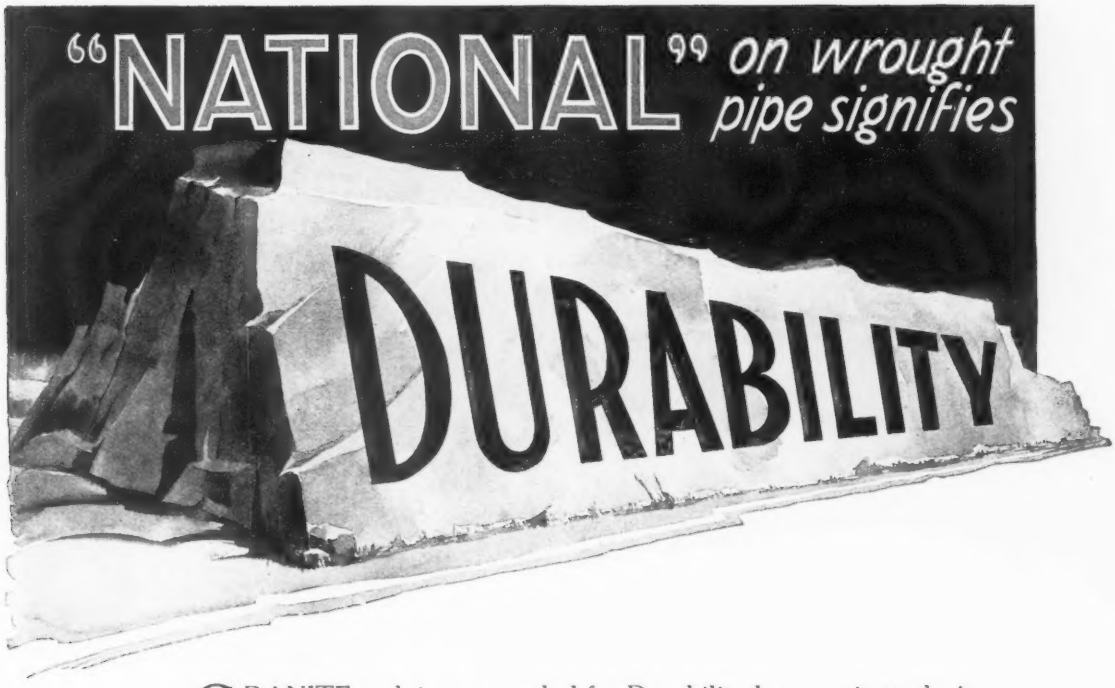
RUBBER GOODS

DETROIT TWIST DRILLS

Back to the drill that has won international fame for quality, accuracy, speed, endurance and economy.

To insure American industry and home-coming American workmen an adequate supply of Detroit Twist Drills, Cutters and Reamers, is the object of the present expansion in the manufacturing facilities of this company.

DETROIT TWIST DRILL COMPANY
DETROIT, MICHIGAN



GRANITE rock is as a symbol for Durability because its enduring qualities are universally known.

¶ "NATIONAL" Pipe is recognized as durable pipe for a similar reason—because its enduring qualities are also well known—those qualities which are natural consequences of the care used in selection of raw materials, of expert supervision over every step in its manufacture, and unceasing research to improve both methods and materials—all conducted by an organization with fifty years of pipe making experience.

¶ "NATIONAL" Pipe is durable because it is uniform in chemical and physical properties; it is durable because it is Spellerized (sizes 4-in. and under) to reduce any tendency to corrosion; it is durable because it has wonderful ductility (permits bending and forming without breaking); it is durable because it is made full standard weight only (no light weight pipe to give shorter life); and it is durable for many other and special reasons applying to particular types of tubular service.

¶ Durability has been one of the important factors which has established "NATIONAL" Pipe in practically every wrought tubular service.

NATIONAL

THE RECOGNIZED STANDARD OF WROUGHT PIPE QUALITY

NATIONAL TUBE COMPANY, PITTSBURGH, PA.

General Sales Offices: Frick Building

DISTRICT SALES OFFICES

Atlanta Boston Chicago Denver New Orleans New York Salt Lake City Philadelphia Pittsburgh St. Louis St. Paul
PACIFIC COAST REPRESENTATIVES: U. S. Steel Products Co. San Francisco Los Angeles Portland Seattle
EXPORT REPRESENTATIVES: U. S. Steel Products Co. New York City

ALEXANDER
LEATHER BELTING

The High Mark on Leather

"HOW TO USE LEATHER BELTS"

The care of belts is important. For the information of belt users everywhere, we have prepared a set of rules entitled—"HOW TO USE LEATHER BELTS." This information is to be had in the form of 9 x 18 Shop Cards, 5 x 8 Machine Cards and handy booklets to fit the vest pocket. A set—or a number of sets—will be mailed on request. **Free, of course!**

Power properly put-to-work will make a watch or move a mountain. For more than half a century the words Alexander Leather Belting have been synonymous with power transmission.

ALEXANDER BROTHERS
Philadelphia

Factory Branches located in

New York Chicago Boston Atlanta

Distributors of Alexander Leather Belting, Sole Leather, Harness and Strapping Leather and Leather Specialties are located in all of the principal cities of the United States and throughout the world.

ELM CITY BABBITT

Sold on Consignment, Advertised Nationally

Your first order of Elm City Babbitt will be shipped on consignment. Subsequent orders will be billed as usual, subject to the customary terms of cash discounts.

Profit Good—The margin on Elm City Babbitt is excellent on single sales. But, considering the rapid "turn over" due to generous advertising in the magazines listed below, it becomes especially attractive.

The Magazines—This strong list of magazines will carry page ads throughout the year.

SYSTEM
FACTORY
INDUSTRIAL MANAGEMENT
IRON AGE
AMERICAN MACHINIST
IRON TRADE REVIEW
THE BRASS WORLD
METAL INDUSTRY
AMERICAN METAL MARKET
THE DAILY METAL REPORTER

Other publications will be added as distribution increases. Nothing will be left undone to push Elm City Babbitt.

In addition to this, we are doing a large amount of direct advertising. Also, dealers will be furnished with booklets, store cards and imprinted folders.

A Standardized Product—Elm City Babbitt contains about twice the amount of tin of any similar babbitt and consequently will serve twice as long. The formula of Elm City Babbitt is the result of scientific investigation, and the quality is standardized—always the same.

Elm City Babbitt is distinctive in form and formula. Not a bar—not a ball but a CAKE. Cakes weigh about 3¼ pounds and are packed in boxes of 56, 100, 250, 500 pounds. Order now and benefit from our national advertising.

United Smelting & Aluminum Co., New Haven, Conn.

MILL SUPPLIES

"the journal of quality"

AN INDEPENDENT MONTHLY JOURNAL DEVOTED TO THE INTERESTS OF THE JOBBERS AND MANUFACTURERS OF MILL, STEAM, MINE AND MACHINERY SUPPLIES

Founded in 1910 by Elmer Crawford

Vol. IX CHICAGO, MARCH, 1919 No.

Published on the first of each month by

THE CRAWFORD PUBLISHING COMPANY

Ellsworth Building, 537 South Dearborn Street, Chicago, Illinois
Telephone Harrison 7315

MEMBER AUDIT BUREAU OF CIRCULATIONS
Member Chicago Trade Press Association

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CLAY C. COOPER, *Business Manager*
CARL W. MILLER, *Secretary*

CLAY C. COOPER, *Editor*

ADVERTISING—Advertising forms containing two-color advertisements close on the 23d of each month preceding date of publication. Single-color forms close on the 25th. Rates on application.

SUBSCRIPTION RATES—United States, $1 a year; to all other countries, $1.50 a year.

DISCONTINUANCES—Before expiration of subscription, notice is sent to the subscriber. The majority of our subscribers prefer to have their file of MILL SUPPLIES unbroken, so the publisher earnestly requests an early renewal of Subscriptions.

ALL REMITTANCES should be made payable to the order of The Crawford Publishing Company.

Entered as second-class matter August 3rd, 1917, at the post office at Chicago, Illinois under the act of March 3rd, 1879.

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Editorial pages going to press February 27. Delays in operation and transportation are extreme. Advertisers and general readers will kindly be patient under delays in delivery of magazine.

THE SPRING CONVENTIONS

The organized mill supply dealers of this country usually arrange their annual conventions on identical dates, and in the same city, with one or more joint meetings. This included the members of the National Supply and Machinery Dealers' Association and the membership of the Southern Supply and Machinery Dealers' Association. With them met the American Supply and Machinery Manufacturers' Association, thus killing two birds with one stone—both ways. This year the time and place committees of the dealers' associations found it impossible to so arrange dates as to make joint meetings possible, with the result that the Southern Association has selected New Orleans as a gathering point, and April 7, 8 and 9 as the dates. The National Association will meet in Pittsburgh on May 15, 16 and 17, and the American Association of Manufacturers will appear in a double bill, meeting with both associations.

In addition, the Southern Hardware Jobbers' Association and the American Hardware Manufacturers' Association will meet in New Orleans during the calendar week of April 7-12, and the National Pipe and Supplies Association will hold its annual convention in Pittsburgh on May 13 and 14.

With this varied collection you ought to be able to arrange two very pleasant and profitable business trips, one in April, the other in May. Now here comes the annual tip—make your reservations for your hotel accommodations early. The Southern Association will have headquarters at the Grunewald, and the National at the William Penn Hotel. There are a lot of things manufacturers and distributors who desire to talk over prices past, present and future; the income tax, the coming bond issue, and readjustments in general. Its impossible to satisfactorily settle any of these propositions by correspondence, so arrange to be on the ground and do your part.

THE FORTHCOMING LOAN

There are few business men who are not of two minds regarding the forthcoming issue of government securities—the Victory Loan. They know the loan must come, for the government must pay its war debts, and the war is far from being over as far as war expenses are concerned. The question with them is as to whether the banks, insurance and trust companies shall carry the bulk of the burden, or whether the people will carry the load as they did in the last loan. In the final analysis it is more a matter of selfishness than patriotism, because if the interest rate is made high enough there will be no question about it. The matter of having bank assets in a liquid state to absorb short term treasury certificates is necessary, but there is no logical reason why there should not lodge in their vaults, eventually, a considerable portion of the government bonds issued. Their vastly increased earnings during the past two years proved that they would have had prosperous years had a

much larger portion of their capital earned four and one quarter percent rather than the five and one-half or six percent secured on the turnover. Hundreds of millions of Liberty Loan bonds have been accumulated at discounts ranging from one to six percent below par, and these bonds are not in the hands of the small investor.

Secretary of the Treasury Glass has at last seen the light, and money for government needs will be raised by various forms of short term treasury notes. The rate of interest on these various forms will be left to his discretion at time of issue. The general public will be offered a government security, subject to tax, possibly carrying as high as five percent interest, in amounts as low as fifty dollars. A second form, tax exempt to a limited amount, will carry a lower interest rate, probably four or four and a quarter percent. The third form, to appeal to the heavy investor, including banks, trust and insurance companies, the principal and income free from all but an inheritance tax, may conceivably carry an interest rate as low as three percent.

These treasury issues, whether called notes or bonds, will have a maximum life of five years. The redemption period of individual issues will be left to the judgment of the treasury.

There has been serious talk, ever since the first Liberty Loan, of making it an offense to buy or sell these bonds below a certain agreed figure, so it is evident the bonds can be so protected. Remove the possibility of this profiteering by bond dealers and a lot of highbinders who refuse to subscribe at par, knowing they can safely rob the original investor later on, will step out into the open and buy the government's securities at par solely because they are the best and safest investment in the world. No one thinks of belittling the splendid work the banks have done in many directions, but that does not change facts, and the time has now arrived when a lot of things are going to be hauled out in the open and settled on their merits. The next loan will go over all right, but not exactly in the same old way.

OVERHEAD AND OTHER COSTS

There are so many articles in the present issue that you ought to read, that to call attention to any one might invite invidious comparison, so we can only hope that you will peruse the magazine from cover to cover. Even then, an article by G. D. Crain, Jr., on overhead costs, is worthy of much thought and some figuring by both manufacturer and distributor. Handling costs have been revolutionized during the past two years, not always to the disadvantage of the seller, because of the fact that accompanying the increased cost of handling an item, the heavy advance in the selling price, on a percentage basis, cared for the added expense of putting through the sale. Mr. Crain has handled the matter in a very interesting way, and as he holds no brief for either side of the question, the article simply suggests the application of facts to the cost system in your business to prove whether or not war conditions dislocated your figures.

A REAL MAN

Out in Seattle Ole Hanson is mayor. Most of the civilized world knows it, but until one famous day early in February but a small fraction of even the people in his own state had ever heard of him. On February seventh more than sixty thousand men, or at least a majority of that number, threatened by strike and intimidation to paralyze every industry in Seattle, including shipbuilding, light, transportation and even water service. They declared for a practical soviet on the Russian plan, under I. W. W. auspices. The conspirators heard from the mayor and the chief of police what they believed to be the usual municipal bluff, closed down the newspapers, and prepared to seize the city. Labor leaders, threatened with a city under federal control, were defiant.

Then Mayor Hanson, to the everlasting credit of America, Seattle and himself, issued a statement and took measures that will stand out boldly as long as men have memories. To tell the story in other than his own language would be pitifully inadequate, so here is the part of it that revealed the splendid, unafraid soul of the man:

Yesterday I notified the strike committee that at 8 o'clock this morning everything would operate. Everything is activity in Seattle this morning. Every municipal car is running. Our light plant has never shut down one minute. Neither has our water plant. Gathered in Seattle are Joe Ettor, of Lawrence, Mass., fame; Mucky McDonald and men of his stripe from all over the union.

Gathered here are hundreds and thousands of Russian bolsheviki who have arrived here during the last two years. These scoundrels want to take possession of our American government and try to duplicate the anarchy of Russia.

The seat of government is the city hall. We swore in 1,000 extra police and hold in reserve citizens armed with rifles and shotguns. I gave orders to shoot on sight any disturber of the peace. They know from the experience they had at the riot a few weeks ago that we meant business and, believe me, we did.

I wanted a showdown. If there is a majority of these fellows in the United States I don't want to live here. They told me the troops were disloyal and would not help us. I told them that was a lie, but even if it was so, we would fight until we were dead before we even allowed them to turn out one eight candle power light.

Chief of Police Warren is a real man who loves his country. We decided that we would not call in the federal troops. If they are called in to quell disorder some one else must call them. We won't be here. The great body of union men saw the light. Today they are bitterly re-

senting their false leadership and will overthrow their officers in many unions.

This is a test of unionism or I. W. W.ism. If any one owes higher allegiance to any organization than they do to this country, they are traitors and should be treated as such. That is all there is to it. This is a time for union men to stand up and be counted. This is a time when every American must forget all other allegiances and stand by the government.

The unions of the nation are on trial. They are either American Federation of Labor loyalists, or bolshevik traitors.

This morning the strike is broken. Business is resuming. Strikers are returning to work. Our city no longer lies prostrate. Ninety per cent of Seattle stands firm for Americanism. The other 10 per cent will be driven from this community.

Has this statement a proper place in the editorial section of a trade paper, when we are well aware the facts are already in your possession? It has, or else MILL SUPPLIES has failed to justify its right to exist; failed to truly represent the red-blooded, patriotic Americans who read it and support it, who fought the great war to a successful finish, and who will wipe out bolshevism in this country as sure as the sun will rise. Cut this statement out and paste it in a conspicuous place where you can read it whenever you hesitate to take the stand that is right, regardless of cost. As a nation we are accused of having short memories, blind to our unpreparedness, and continually courting disaster because of it. We have recently seen the danger of it, have paid bitterly in blood and treasure because of it, and will continue to pay for years. Money is next to nothing in the score, but an appreciable percentage of our soldiers dead, blinded and maimed will forever stand as a reproach to our lack of courage and common sense. For the safety of our country may there ever be, in every emergency, an Ole Hanson on guard.

EXCESSIVE ZONE RATES

The excessive postal charges on publications, under the iniquitous 1917 zone law, were justified by Messrs. Burleson and Kitchin on the ground that the postoffice department was losing money, and that the publishers were the cause. Charles Johnson Post, director of the Publishers' Advisory Board, has compiled some interesting statistics regarding this alleged postal deficit, and declares that there is no such thing, the postmaster general's report for 1917 showing a surplus of over $12,000,000. The postoffice reports for 1918 show a surplus, after deducting the increased receipts from war postage, of more than $19,000,000. It is apparent that the system of bookkeeping in the postoffice department does not allow for or take into account the vast amount of mail carried free for the government direct, nor the poundage used by members of congress. While the ultimate cost all comes out of the same pocket, the cost of carrying this vast amount of government mail should not be charged up against the general cost. It should be charged to the department or branch of the government responsible for it. The government's bill exceeded $25,000,000 in 1918, a large part of it chargeable to the treasury department. In the first place, the postoffice never was intended by the founders of this nation to be a money-making department. Certain classes of mail have ever been carried at a great profit, and other classes at cost, or at a positive loss. Were this not true, rural free delivery never could have been contemplated, much less carried into effect. The loss on this form of delivery last year approximated fifty million dollars.

Mr. Post points out that the penalty postage increase under the postal zone law is a tremendous burden on the reading habit of individual states. The unjustness of the law was practically brought into view when the Y. M. C. A. required 15,000 subscriptions of two leading and important American publications for the use of our fighting men in the trenches and Y. M. C. A. huts abroad. Under the law the postoffice was compelled to hold that the huts and trenches were in the eighth postal zone, and the penalty postage on these 15,000 subscriptions alone amounted to $7,000. On July 1 of the present year rates advance sharply on all zones, and again in 1920.

TO SECURE INDUSTRIAL PEACE

Doctrines vitally important to all employers of foreign born labor are being vigorously promulgated by the foreign language press. "After the restoration of peace and liberation of our countries the first duty will be to go back to the old country in order to populate the devastated parts and help in the work of the revival." So runs a typical editorial from a foreign language paper. It will result seriously to mines and mining industries unless means are found to offer another prospect in the form of opportunity in America which shall offset the eloquence of this invitation "home." Our foreign born workers must be made to feel a home pull on this side of the Atlantic. The influences that are seeking to divert them from all thought of allegiance here must be studied and understood, the forces that are working not only to cause misunderstandings between the foreign born and America but also between the different foreign born groups in America must be met and controverted. How can this be done? The Inter-racial Council, with headquarters at 120 Broadway, New York City, has studied the situation and it is ready to advise employers and point out the new influences that are to be reckoned with.

Eighty Million Dollars in Machine Tools

That is the Amount Carried by the Aircraft Division of the War Department—Plans for Disposal in Co-operation With Makers and Distributors

The question of disposal of the vast amount of machine tools owned or controlled by the government, is of vital interest. W. L. Higgins, Material Disposal Section, Machinery Division, Bureau of Aircraft Production, of the War Department, was recently in conference with the National Supply and Machinery Dealers' Association. It was suggested that efforts would be made to have the contractors take the tools in their plants, and that everything would be done to secure disposal of the tools in this manner.

If, however, agreement with the contractor cannot be reached the machinery will be turned over to the government for disposition and the price will be fixed by the appraisal board acting in co-operation with the material disposal section.

After the machinery is definitely set aside so that it can be properly inventoried, it is intended to classify the tools according to the maker, especially where there are a number of tools of the same manufacture. Where there are a small number of tools produced by a manufacturer of smaller output, it is felt they should be classified according to kind, such as milling machines, drills, planers, lathes, etc., involving miscellaneous tools.

Secretary Fernley states that the government appreciates the co-operation of the dealers in the consideration and carrying out such plans as may be later definitely determined upon in connection with the disposal of these tools.

It is estimated, subject to later correction, that the value of the machine tools in the bureau of aircraft production, is in the neighborhood of eighty million dollars.

Of this eilghty million dollars worth of tools 90 percent are in fine condition, 3 percent have not been used and 3 percent are set up and belted but have never been worked.

It is probable that a certain portion of the tools must be sold promptly, but the method of disposal will be along the lines developed in the conference of the representatives of the National Supply and Machinery Dealers' Association and the National Machine Tool Builders' Association on January 16 with the director of sales of the war department, as follows:

"1. The inventory of all machine tools and equipment which is being made will be expedited to the greatest possible extent.

"2. As soon as it is known that a quantity of machine tools is available for disposal, the manufacturers of these tools will be given an opportunity to purchase them at a price and on terms of settlement which will be satisfactory to all parties concerned.

"3. In case it is impossible for the manufacturer to purchase his product outright, an effort will be made to arrange for the marketing of the product by the manufacturer in an equitable manner, securing for the government and the manufacturer alike the best possible terms.

"4. In case both these methods of disposition fail, the material will be offered for sale to the general public in a manner prescribed by law."

In the settlement of plant contracts which involves the sale of large groups of various kinds of tools and equipment, an effort will be made to prevent the sale for resale of any equipment, as it is realized that great injury could be done by indiscriminate sales of this character.

Secretary Baker stated to the hardware people at Atlantic City on December 11, that it was not proposed to permit syndicates or corporations organized for the purpose of buying surplus government owned stock to demoralize labor conditions and business conditions throughout the country, through securing government goods at a fraction of their cost and circularizing and advertising such lots of merchandise in a way which would be detrimental to the business.

Information has already appeared in the public press regarding corporations which appear to have been organized with some such thought in view, and one entry is found in the financial columns relative to the organization of a corporation to deal in machine tools which would appear to have some such proposed purpose.

The government assures the labor and business interests that such speculative operations in government owned surplus stocks will not be permitted.

In this connection, E. C. Morse, assistant director of sales of the war department, has made the following announcement:

"It has been noted that a number of second-hand dealers advertise, from time to time, quantities of new or nearly new material, which they claim to have purchased from the government and on which they solicit business. These cases have all been run down, and in every instance so far material advertised has not been the property of the second-hand dealers, and the government had no intention of selling him this property. The trade should distinctly understand that it is not the policy of the sales department to sell property to anyone for speculative purposes."

As a sidelight on the movement of these tools, it is reported that the Standard Steel Car Co., New Castle, Pa., will purchase from the government machinery and equipment of a total value of $1,000,000 which was bought by the government for use at the company's plant.

Where the Spring Conventions Will Meet

Distributors of Mill Supplies Meet in New Orleans in April and in Pittsburgh in May — Manufacturers Will Participate in Both Conventions —The National Pipe and Supplies Association Convenes in Pittsburgh

This year the two big associations of mill supply dealers find it impossible to meet together, so the Southern Supply and Machinery Dealers' Association will hold its annual convention in New Orleans, April 7, 8 and 9, and the National Supply and Machinery Dealers' Association will meet in Pittsburgh, May 15, 16 and 17.

The American Supply and Machinery Manufacturers' Association will meet with both dealers' associations on the dates named above. In Pittsburgh headquarters will be established at the Hotel William Penn, and at New Orleans at Hotel Grunewald.

The National Pipe and Supplies Association will hold its annual convention in Pittsburgh on May 13 and 14, with headquarters at the William Penn.

The Southern Hardware Jobbers and The American Hardware Manufacturers' Associations will also meet in convention in New Orleans during the calendar week, April 7-12.

There is no doubt that the climate of New Orleans in early April will be delightful, and that the attendance will be large. As for Pittsburgh, thought carries naturally to the ideal convention conditions that prevailed the last time mill supply people gathered there. Hotel accommodations were ample, and the hospitality of Pittsburgh organizations was on a plane with the manufacturing and distributing greatness of the city.

GEORGE D. McILVAINE
Secretary-Treasurer The National Pipe and Supplies Association

The tenth annual convention of The National Pipe and Supplies Association will be held in Pittsburgh Monday and Tuesday, May 12 and 13, with headquarters at the William Penn Hotel.

While the conventions of this association in recent years have been largely attended, and have grown in importance to the jobbers, indications now point to an unusual gathering next May, both in attendance and in interest.

The jobbers of wrought pipe, fittings, valves, etc., have been privileged to live through an unusual and unprecedented period, and have seen both the tonnage and the volume increase to figures never before thought possible. The demand upon them made it necessary for many houses to largely increase their facilities and their organization, and they are now confronted with the necessity, in many cases, of reducing the latter and preparing for a period of readjustment.

The enormous purchases by the government and many industries have piled up a surplus of supplies which will take some time to distribute in a manner that is satisfactory to both manufacturers and jobbers and that will safeguard the interests of all parties.

The place in industry and the real value of the jobber as an assembler and distributor of many lines was never so well demonstrated and understood as during the period through which we have just passed. It has instilled new confidence in the jobbers as to the future of their business, and has quieted for considerable time the silly talk about the elimination of the jobber, which has been prevalent at intervals.

It must be apparent that there has never been a time in the history of this business when a gathering of jobbers for a review of the past, a frank exchange of views as to the present and constructive planning for the future was as necessary as now.

It is peculiarly appropriate and fitting that this convention should be held in the greatest industrial center of the world, where it will be possible for the jobbers from all over the country not only to exchange views with their fellow jobbers, but to come into personal contact with the executive officers and the selling organizations of the large mills operating in this district. It is apparent that manufacturers will also come to Pittsburgh in large numbers so that they too may exchange experiences and consult as to the future of their own particular lines.

We feel that the opportunities afforded by this convention are unusual and cannot be ignored or neglected by any wide-awake jobber, who, however successful and efficient he may be, still has an appreciation of the knowledge of the great advantages to be derived from contact with other men.

The details of the convention have not yet been gone into extensively, but will follow the usual lines of this association, full opportunity being given not only for discussions of the problems now confronting the trade, but for conferences with those of like interests.

It is needless to say that the officers of the association will welcome all jobbers to this meeting and all of their manufacturing friends.

THOMAS A. FERNLEY
Secretary-Treasurer National Supply and Machinery Dealers' Association

The fourteenth annual convention of the National Supply and Machinery Dealers' Association, convening at the William Penn Hotel, Pittsburgh, Wednesday, Thursday and Friday, May 14, 15 and 16, 1919, will come at the close of a very active year in the distribution of supplies and machinery for mills, mines, factories, railroads and shipyards.

The lesson of co-operation was impressed upon the manufacturing and distributing houses during the war to a greater extent than ever before.

The United States government deemed it not only advisable, but necesary to confer with industry in its organized units because it was realized that if an attempt were made to deal with various houses in the industry individually, it would require a thirty years' war to secure the active support of the industries in the war program.

Therefore, with this lesson of co-operation impressed upon the minds of the business public, organizations which have already held their meetings in 1919 have enjoyed a large attendance and a degree of accomplishment beyond their fondest expectations.

The readjustment period is always difficult. It was easy to conduct the steps preparatory to united effort when the reasons for co-operation were upon us, and when the busines men realized that if the war was to be won, it must be through each one taking his part to the best of his ability.

For the past three years, and particularly during the last two years, our members have each done their full part in facilitating the distribution as well as the production of manufactured articles for war purposes and for purposes allied to the war, with the result that America reached a peak of output which was surprising and gratifying to the entire world.

The need for this wonderful productive capacity and output disappeared on November 11, and we were called upon to stop war production, which in many factories had reached 90 percent, and to revert to a peace time business.

There is, of course, all the difference in the world in making this change with the absence of enthusiasm which was felt by every executive and worker in the rush of war preparation.

For the first several weary months of the readjustment of industry to peace conditions, there was little spirit in the trade generally, but it is believed that there will be a change, and with the coming of Spring workers will be actively employed upon the farms and in construction work of one kind or another, as well as on the railroads and in public utilities, bringing a resumption of active buying on the part of the public.

All of these matters will be definitely considered at the Pittsburgh convention, and we expect to have some talks by the manufacturers upon the conditions in their line on a peace basis in the same manner as such talks were admirably given at the 1918 convention in Cleveland upon the situation as it existed under war conditions in connection with the manufacture of supplies such as are distributed by our members.

The association has had committees actively working in co-operation with the government in connection with the sale and disposition of surplus stocks.

Full information with respect to the government plans in connection with the disposition of surplus stock has already been given to the members of the association, and we will probably have a representative of the government at Pittsburgh to further co-operate in the disposition of the material held by the government which it desires to sell without unnecessary disruption to industry.

The manufacturers and dealers will desire to consider at Pittsburgh, the matter of the readjustment of prices and of the guarantee and stock protection extended by the manufacturers to the distributor in connection with their purchases.

Nothing can serve to slow up industry more definitely than a great uncertainty regarding the price of merchandise, and consequent unwillingness upon the part of the distributor to invest his money in those goods which are bound to suffer a reduction in price.

This situation can be met by the manufacturers in co-operation with the wholesaler, and in many lines there has been a willingness shown to make every possible guarantee of stock protection to the distributor even to the extent of billing goods on "memo" where the uncertain condition of the market justifies this action.

This association has increased its membership materially since the Cleveland convention, having added 88 houses to the membership, now totaling 218 representative distributors of supplies and machinery throughout the country.

The members have been fully advised of the work done by the association as represented in a recent report covering over 30 items of work conducted by the association during the last ten months, reporting upon each item in detail.

It is, therefore, our opinion that the needs of the times, in addition to the interest of the members in the work of the association and their desire to meet with other distributors and the manufacturers, will result in a well attended convention at Pittsburgh.

In addition to the foregoing, statistics show that merchants and manufacturers in other lines are well aware of the benefits of conference and co-operation under the existing conditions, and that the executives of distributing houses and manufacturing concerns are attending conventions this year.

Supply distributors and manufacturers everywhere are on the alert for the maximum amount of information from which to determine their selling and buying policies and Pittsburgh will be sure to see a record attendance.

Fuel Saving by Factories

Through the co-operation of the industrial power plants in adopting the standard recommendations of the United States Fuel Administration to promote efficiency in the use of fuel in power plants, a saving at the rate of seven million tons annually has been effected. Some industrial plants which have adopted the standard recommendations and kept systematic records report a fuel saving as high as 25 per cent, and the average is estimated between 10 per cent and 15 per cent. This large economy is effected at practically no expense to the plant owner since the recommendations treat primarily of proper methods of firing and management in power plants.

Getting Acquainted With Overhead Expense

Does the Old-Time Percentage of Cost Still Operate Satisfactorily Regardless of Increased Selling Price?—If Not, What is the Present Ratio?

G. D. CRAIN, JR.

Some of the old familiar business problems that dropped into the background during the war, because of a number of more important factors in the situation, are again reaching the center of the stage. With the return of something like normal selling conditions, the consideration formerly extended to these items in the business category must be restored.

One of these is the matter of overhead expense, or cost of doing business. In the rush and turmoil of the war, with commodity prices rising rapidly, and with everybody making money as a result of the constantly upward trend of values, the little matter of overhead was left to take care of itself. It became relatively unimportant. There were other things that overshadowed it. Getting the goods, making the deliveries, keeping the wheels turning—these were the big things, and with price conditions as they were, profits piled up without the former necessity for watching the h. c. of l. as expressed in increased overhead.

Now that the tides of war have receded, and with business again being done on the usual basis as to margin of profit, attention is being called once more to the fact that overhead cannot be neglected without serious danger of loss. The war has gone, but it has left with it, apparently as a permanent legacy, increased handling costs. It costs more to take a piece of merchandise out of a car, put it in a warehouse, and later pick it up again and deliver it at the factory of the consumer. It costs more to put an item on the books, handle the collection of the account, and run the office end of the business generally.

There is no prospect of overhead costs being reduced in the near future. During 1919, certainly, they will remain at the figures developed during the war. Most of the cost of doing business is represented in the cost of labor, both clerical and warehouse. As the cost of living is continuing high, there is no possible chance of reducing the payroll, and hence there is no reason to believe that overhead expenses will be any less this year than they were last, when war-time conditions prevailed for the most part.

Nor, must it be admitted, is there any immediate likelihood of prices of finished commodities handled by the mill supply jobber being materially reduced. Although raw material is less costly than it was, the fact that labor and transportation costs are still up is operating to prevent any notable reductions from being brought about. In fact many manufacturers are now guaranteeing prices, indicating their belief that present quotations are destined to be current for some time to come.

There is considerable importance attached to the matter of selling prices. One reason is that the advance of commodity values, assuming that the same rate of overhead is applied as usual, insures a larger amount to take care of operating expenses than if prices remained the same or receded. In other words, if an article priced in ante-bellum days at $1 is now selling at $2, and the jobber has been applying a 20 percent overhead to the selling cost, he will have 40 cents to the credit of this item as compared with 20 cents formerly. And this, presumably, is sufficient to take care of any increases that may have come about since he originally figured out the 20 percent overhead charge. That is why, on a rising market, such as was recorded during the war, the necessity for worrying about overhead was largely eliminated. The increased volume of sales brought about automatically by increased prices, rather than by increased tonnage, was more than sufficient to take care of the overhead.

This is a peculiar result of generally high prices. It suggests an increased volume of business that is unreal, as far as handling an increased amount of merchandise is concerned, but is real enough in terms of dollars and cents. If profits on this increased turnover are assured, through the operation of the right charges for overhead and other items, this condition is all right, but there is always the danger that the shrinkage in prices later on will not be accompanied by proper attention to the overhead, which in the meantime has been creeping up.

There are several points to be considered in this connection at present.

One is that the resumption of practically normal conditions of buying and selling is naturally bringing the element of competition into stronger play than when merchandise was scarce, and it was a question of who could take care of the business and deliver the goods. The man who wants to keep his business up is naturally figuring on how close a margin he can afford to sell. His volume, on a war-time basis, may have shown a reduction in the percentage of overhead, even though his actual dollars-and-cents expenses of doing business have increased, because of his increased volume of business. He therefore is tempted to cut down the overhead charge below what has usually been allowed for this item, in an effort to make his prices just as attractive to the buyers as he possibly can.

This will work out satisfactorily, provided prices remain as they are, and provided his volume is sufficiently large. In any relationship such as that represented by the percentage of overhead, the change of any one factor will bring about a big difference in the

result. In order to carry an increased overhead—in dollars and cents—without showing an increase in the percentage, it is of course necessary that the volume be increased in equal or greater proportion to the increase in the cost of doing business.

The fact that the old percentage of overhead proved sufficient to take care of the increased running expenses during the war, when the volume of business, on both a tonnage and dollar-and-cents basis, showed an increase, may not be altogether significant of peace-time operating conditions. The requirements of the trade may be less, and the sales may be reduced, so that the volume falls below the high-water mark established under war-time conditions. In that event a reduced overhead percentage would be insufficient to take care of the actual operating costs, and loss instead of profit might easily be the result.

Reference has been made to the fact that commodity prices in mill supply trade have been stabilized to a certain extent, and are not likely to show a marked reduction. This will help things along, but in view of the raw material situation, and the lower quotations on steel, consumers are expecting a reduction, and a gradual, even though not a material decline may come about. With this gradual reduction in prices, and with perhaps a reduced volume of sales in tonnage in the books, the jobber may find that his overhead is so great as to demand a much higher percentage in order that he may come out with a whole skin.

The whole situation is one suggestive of the importance of studying operating conditions. Mill supply jobbers apparently do not get together with any great degree of heartiness or with any marked efforts to co-operate. Yet co-operation would prove of particular value just now, when the trade, in common with the country, is passing through a readjustment period during which it will be necessary for every business man to study the signs of the times and adapt his business accordingly.

Few mill supply jobbers discuss with others, costs of doing business, or detailed methods of arriving at costs. There should be no hesitation in stating facts. It is not giving away a trade secret, and does not tell anything about the volume of business the house is doing. The general opinion is that costs are running today from 15 to 20 percent, and that 18 is about the average. The question that everybody wants to know is whether a sale made with an allowance of 18 percent for overhead today is a profitable sale. If not, why not? How much should be allowed?

Of course, the consumer must also be considered. He has been carrying a big burden of increased costs, both labor and materials. He needs all the relief he can get. If commodity prices in the mill supply field are going to remain up, and if business and manufacturing continue sufficiently active to maintain volume, it may even be possible to do business on a somewhat smaller margin of overhead. If that is true, the consumer is entitled to the benefit of the reduction, since he is paying for it in the form of higher prices for his supplies.

A lot of thse questions might be well threshed out around the table. Local organizations of mill supply men could make themselves exceedingly useful to the trade by taking up the matter of selling expense, and determining whether it is costing more or less to dispose of merchandise now than a year ago, or two years ago. There is not much question regarding the dollars-and-cents expense of selling, but there may be some legitimate question regarding the percentage of selling costs, in view of the generally higher prices at which mill supplies are being sold.

Now is a good time for mill supply men to put away their old prejudicies; to get together in local associations; to study the problems of 1919 with an open mind and without being afraid to tell the truth regarding their business. Such a progrem would mean progress, and would represent real business insurance.

THE SHIPPING SITUATION

Committee of Chamber of Commerce of United States Named to Consider Merchant Marine Now Building

Harry A. Wheeler, president of the Chamber of Commerce of the United States, has named a committee to make a comprehensive study of the entire shipping situation with a view to submitting a report to the membership of the chamber. The committee comprises all the interests involved in a proper consideration of a merchant marine policy, including shipowners, shipbuilders, shippers, agriculture interests, business men of varied interests, admiralty lawyers, etc.

The study will take in all the problems confronting the country in the formulation of a merchant marine policy. It will include such questions as these:

Shall the government continue to own and operate the tonnage in its possession and under construction on government account?

If it does retain ownership shall it charter ships to operators?

If the ships are sold shall differentials in the emergency cost of construction and nominal values be absorbed or written off to admit competitive operation?

What, if any, differentials in operation other than cost of tonnage must be met by changes in regulations or amendments to the laws to provide assured success in competitive operation?

What tonnage would be available for sale to private owners and how could its acquisition be financed?

How should tonnage, if turned back to private operators, be distributed as respects ocean transportation, coastwise shipping and lake transportation.

If the government retains ownership and operates tonnage what definite shipping routes should be established and what sort of tramp service should be built up?

The purpose of the study, as explained by Mr. Wheeler, is to ascertain just what the country desires in the way of a shipping policy and to learn what the business interests of the nation believe is the best procedure.

Are Mill Supply Distributors Overstocked?

In the Very Nature of Their Service They Carried Heavy Stocks When the Armistice Was Signed, but the Situation is Far From Critical

KENNETH C. CRAIN

Readjustment, as far as the United States is concerned, is now under way. It has been under way, in fact, ever since November 11, when the news went forth that Germany had surrendered unconditionally. It has affected all lines of business, including that of the dealer in mill supplies, and business men are wondering just how long the process is to continue. Opinions differ, but inferences based upon facts furnish the best possible source of light upon the question, and may serve to outline the future accordingly.

The situation of the mill-supply distributor is different from that of the mill supply manufacturer, on the one hand, and on the other from that of the man who buys products from the jobber. It differs in that during the period of extraordinary activity brought about by the war, the dealer in supplies, in order to be in a position to give the prompt delivery service expected of him, had to expand his stocks to a point far beyond the former volume. His business was larger, and his readiness to meet orders had to be correspondingly larger. And the coming of peace found him to a very considerable extent with these expanded stocks on hand.

It is true that many manufacturers also found themselves with large stocks of materials on hand, and that many buyers of supplies, themselves manufacturers, were in similar shape; but the fact remains that the average dealer was forced by the situation to more extensive buying than most business men, and fears have been entertained that many dealers have been caught extensively long of the market, so to speak. This possibility naturally brings up a good many questions of more than passing importance. It makes it pertinent to inquire whether, in actual fact, jobbers are much overstocked; whether they are faced with the necessity of unloading on a rapidly declining market, and are making any progress with that task; and whether, after all, there is or is to be expected a declining market.

One of the leading men in the trade, George Puchta, head of the Queen City Supply Co., of Cincinnati, discussed these questions in a recent interview with a representative of MILL SUPPLIES, and his views, based on the situation as he sees it, and on the measures taken by his house and others to meet it, are far from pessimistic. The fact that this is so, coupled with the judicial and uncolored manner in which Mr. Puchta considers the situation as a whole, furnishes one of the best possible reasons for looking to the future cheerfully, as he does.

At the outset, Mr. Puchta takes for granted the general downward tendency of prices, and the general expectation that commodities would continue to exhibit that trend. In some lines, he pointed out, there have already been substantial decreases in prices, although in many others, in and out of the supply trade, the tendency is still a tendency only, without concrete evidence of realization. However, the feeling on the part of the public and the business world that prices are going down has resulted in a waiting attitude on the part of purchasers which in itself has a certain effect on the situation, tending toward lower prices, just as a heavy demand tends to send prices up, with the operation of the not entirely outworn law of supply and demand.

This waiting attitude has limits which vary with the commodity under consideration, and what a reasonable time may be for a purchaser to wait for lower prices varies widely in different cases. For example, the housewife, expecting lower prices for butter and eggs, will hardly postpone buying to meet her family needs; while the man who could use a new suit, but can make the old one do, may conceivably wait six months or a year. And the buyer of mill supplies, to get down to the present instance, may buy certain supplies pretty regularly, as usual, because he has to have them, while for other goods, in the nature of permanent equipment, he may wait indefinitely if he has reason to believe that prices will be lower. On the other hand, it is also reasonable to believe that a moderate recession in prices will bring buyers back into the market in numbers.

"The man who at the outbreak of the war was contemplating building a house for $10,000, may have postponed the building as a matter of patriotism, in order to obey the government injunction," suggested Mr. Puchta, by way of illustration. "At the end of hostilities, with the government urging the resumption of normal business, including building, this man, getting new estimates on his plans, would find that his house would cost $14,000 instead of $10,000. Now, it is almost certain that he will decide to wait a while to build, in order to permit prices to recede somewhat.

"But if, after a while, he found that he could get his work done for, say, $12,000, the chances are that he would decide to go ahead, on the theory that there would not be a much further drop; and in this he would be right, as far as we can now see, because it is pretty generally conceded that neither labor nor commodity figures are going back to pre-war levels. That illustrates the general attitude—one of waiting for lower prices, and one which, it can be expected, will be satisfied to the extent of resuming buying, should there be a reasonable drop."

As to stocks, Mr. Puchta is of the opinion that on the numerous staple items which are always in demand, and which, with the stimulation of activity in manufacturing during the war, were in even greater demand than usual, stocks are large. On other items, however, stocks are

short, principally in mechanical goods, where a continuous heavy demand, filled by factories on special orders, was in evidence.

It is in connection with the matter of moving stocks on hand, in order to avoid being caught with an excessive amount of goods bought at relatively high prices, that Mr. Puchta's remarks are most interesting, for the reason that a number of leading Cincinnati dealers have for the past three months been operating, through a suggestion made by him, on a method of meeting this problem which has proved to be remarkably effective. The attention of national organizations of dealers was attracted by the plan, in fact, and as details have been furnished, it is possible that by the time this is printed all members of these organizations will be in possession of the information.

The idea, in brief, is the establishment of a clearing house, as the Cincinnati dealers call it, for the purpose of filling from stocks of goods on hand, either in warehouses or on tracks, in the city, orders received by any participating dealer. That is the whole thing in a nutshell; and its simplicity may be gathered from the fact that it is cared for without difficulty by a girl with a telephone and a card index list in Mr. Puchta's office. Its effectiveness, on the other hand, is indicated by the filling through this medium of something like a thousand different orders during the period of three months referred to.

Each dealer furnishes to the clearing house a daily report of items of stock on hand which he desires to move, considered as excessive. This gives a complete list of such items in the city. Then, when a dealer receives an order which he cannot fill, he passes it on to the clearing house, which may be able to fill it from the list, in which case stocks, as a whole, are reduced to that extent.

The advantage of this simple system to everybody concerned, from the consumer to the manufacturer, is obvious. For the dealers, of course, the desired result, that of reducing stocks on hand, is accomplished more readily and satisfactorily than would be possible by any other means, and without the demoralization of the market which would undoubtedly result from a number of individual efforts to get rid of surplus stocks by the expedient of going out and cutting prices. The eventual benefit to the manufacturers selling to the dealers lies, of course in the fact that the Cincinnati market will that much sooner be placed in a normal and healthy condition, ready for the usual course of business.

The desirability of some such plan, for the purpose of preventing the evil effects of possibly frantic individual efforts to get rid of surplus stocks, is such that it is certainly to be hoped that something of this sort will be done in every city of any size where there are several dealers in the supply trade. It is hardly to be questioned that the real problem presented by the situation can in this manner be handled with less disturbance to business than in any other way, and that the trade will thus be enabled without serious loss to get back to the new peace basis, whatever that may prove to be.

In the meantime, it is safe to say that neither jobbers nor manufacturers are suffering from an actual want of business, in spite of the fact that buying on the part of both is being confined to actual requirements. Mr. Puchta commented on statements made to him by manufacturers' representatives to the effect that buying is resulting in a really astonishing total amount of business, indicating that the growth in industrial capacity produced by the war has resulted in a permanently increased appetite for the various items which factories, mines and mills must have in order to keep going.

The ultimate answer to all questions regarding the situation must depend, as a matter of course, upon the volume of demand. Business will not be normal until consumption is normal, and consumption will not be normal until business is normal.

Some lines of industry have unquestionably been hard hit by the sudden and complete change in the general situation. The coal industry, to which Mr. Puchta referred as one furnishing an enormous volume of business to supply dealers, and with which the trade in Cincinnati and the Middle West in general is in close touch, has been especially unfortunate in the combination of a drastic reduction in industrial demand and in an extraordinary mild winter, the two bringing consumption to a very low point.

The coal mines, therefore, are buying very little. Many of them, small and relatively high-cost operations, stimulated into activity by the unlimited fuel needs resulting from the war, will very possibly be forced out of business entirely. All will necessarily have to wait upon the resumption of a healthy normal fuel consumption before they are themselves back in the market for anything excepting the most essential routine supplies.

This is one example of the attitude of the consumer, and of the reasons for that attitude. There are many lines of manufacturing where conditions are not by any means as depressing as they are in the coal trade, and where, in consequence, the resumption of normal conditions may be sooner than expected. In such lines buying of factory supplies will naturally be resumed sooner, and the waiting attitude will disappear with less delay.

On the whole, the authority quoted does not look either for a radical drop in prices nor for a prolonged period of dullness. As he pointed out on a previous occasion, high food prices, improved standards of living, and the general agreement on the right of labor to better wages and better conditions of all sorts, will make it impossible for the cost either of raw materials or of manufactured articles to return to a pre-war basis, a moderate drop, therefore, being all that can be expected. On the other hand, the vastly expanded producing capacity of the country; the tremendous wealth, hardly realized as yet, forced upon the United States through the war; the certainty of a more extensive foreign trade than ever before, together with the needs of an increasing population in this country—these things, it should be plain, leave no room for pessimism on the future of American business. And the supply trade, always and of necessity, prospers as business in general prospers.

Packings and the Mill Supply Distributor

The Line is Not Only Important, But is Generously Specialized, and Offers Many Opportunities for Profitable Work to Dealers' Salesmen

ERNEST H. SMITH
President Hollow Center Packing Co.

Packing is one of the most important items of the mill supply jobber's line of supplies, not from the standpoint of volume of sales, but considered from the standpoint of its importance in the maintenance of power in the industrial plant.

Just think for a moment where packing is used. First comes the steam engine, which is the source of all power. All the joints of the engine are protected with sheet packing. The piston rod and valve stems are also packed, and if this packing blows out or burns out the engine is shut down and all machines using the power developed by this engine are stopped running. The belting lies idle, no matter how good it is, and so with every bit of machinery and equipment in the plant which depends on the power developed by the engine. Packing is used on the boiler feed pump the same as on the engine. If the packing blows out on the boiler feed pump it is shut down and the boiler which creates the steam to run the engine cannot make steam and the engine shuts down.

These are probably the two most important places where packing is used. There are a great many minor uses such as house pumps, deep well pumps, hydraulic elevators, hydraulic machinery of all kinds, pipe joints, valves, etc., any one of which if the packing fails to give service, will cause a great amount of trouble and in most cases cause the shutting down of part of the plant.

Without going any further it is readily seen that practically every other item of supplies including belting, oil, transmission equipment, such as pulleys, shafting, etc., machinery and its equipment all depend on the engine for power, and the engine depends on its packing.

The writer is inclined to think that a great many mill supply jobbers do not realize the importance of packing in the maintenance of power. If they did they would not relegate their stock of packings to the back shelves of the store or to a far corner of their warehouse. They would not carry in stock a miscellaneous collection of old style packings which could easily be replaced by new and improved packings. Of course this does not apply to many jobbers who fully realize the importance of packing, and who have given it considerable thought and attention and are always on the lookout for the latest development and the most improved packing on the market.

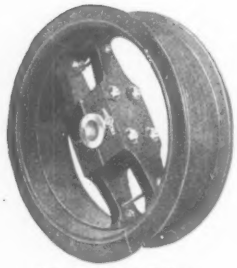
Some jobbers will answer all the above with the statement that they have found packing a bad thing to handle because they have had packings fail to give service, causing their customers much trouble, and creating hard feeling between the firm and the customer. For these reasons this jobber says: "Let the packing manufacturers who specialize on it, sell the packing." By the same token he might say: "Let the belting manufacturers sell the belting," "let the machinery manufacturers sell the machinery," etc., throughout all the different items of supplies, and he would soon find he had nothing to sell and there would be no reason for the jobbers existence.

Instead of being a "bad thing to handle," packing can be made one of the best business getters in the store. It all depends on the kind of packing handled just as belting business depends on the kind of belt handled. There are two distinct classes of packing stocks. First the ordinary stock which is usually under the jobbers' private brand, and, second the specialized stock. This is a day of specialists, and the highest depvelopment in packings is none too good for the "man behind the gun," the engineer, the superintendent and the master mechanic, all realizing the importance of packing in power maintenance even if the jobber doesn't. These men often have the power and authority to direct the purchase of supplies in the direction from which they receive the best service. It is evident that if the jobber supplies the mechanical man with an improved packing that will take care of some particularly hard place that has caused a lot of trouble, he is going to appreciate it, and it gives the jobbers' salesman an opportunity to secure other supply business.

It is probably not possible to secure a "patented speciality" or an improved packing to take the place of every style of packing in the jobber's stock. It is possible, however, to replace several of the old styles of packings with new improved packings—specialties that can be made leaders.

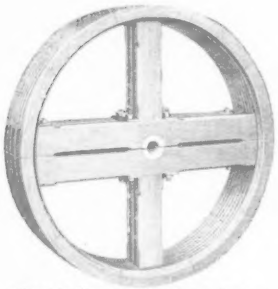
The jobber may ask, "Where can we secure these improved packings?" There are several lines of improved packings on the market that are sold through the jobber, and these manufacturers are always looking for live jobbers. The only suggestion the writer can ethically make is that the jobber who is interested can get in touch with these manufacturers by reading the advertising pages of MILL SUPPLIES. There is no intent here to carry the idea that all recently put on the market products are good, or that many of the old timers are not filling their fields, but only to assert that improvements have been made in packings, and that distributors ought to be keen to stock the best. It is more necessary than ever before for manufacturers to secure supplies of the highest efficiency.

Wood Block Pulley



Wood Flange Pulley

Step Cone Pulley



"Oneida-Keystone" Wood Pulley

Carry the Right Pulley

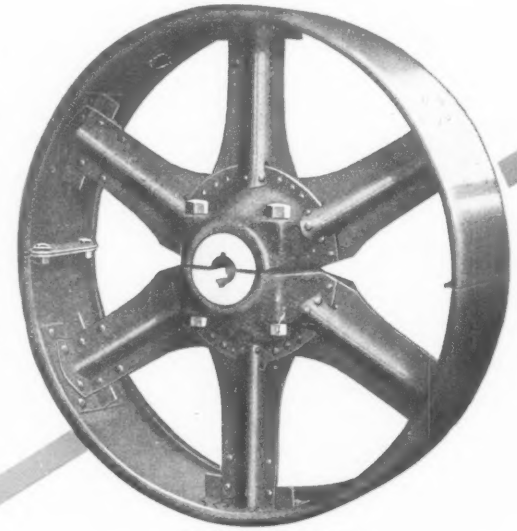
It takes all kinds of pulleys to meet the buyers. Some men want iron pulleys and will have but steel pulleys, while still others prefer wood pulleys. reason or on prejudice, it's up to you to supply your customers with what they want.

The Dodge Line Includes Pulleys of Every Type

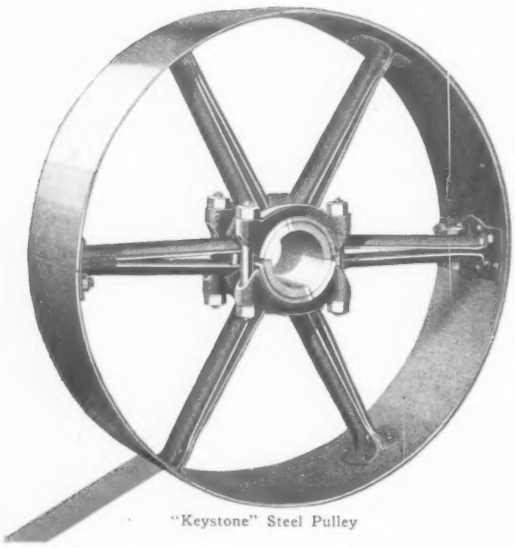
Dealers recognize the advantage of being able to obtain promptly from one reliable source, every type of pulley their customers want.

Every Dodge Pulley has back of it a record of faithful, economical service.

Independence Wood Split Pulleys were the pioneer wood pulleys. They have been making good in service for more than thirty-five years. They are the biggest selling wood pulleys on the market today.



"Oneida" Steel Pulley



"Keystone" Steel Pulley

Dodge Sales and

Distributor of the Products of Dodge Manufacturing

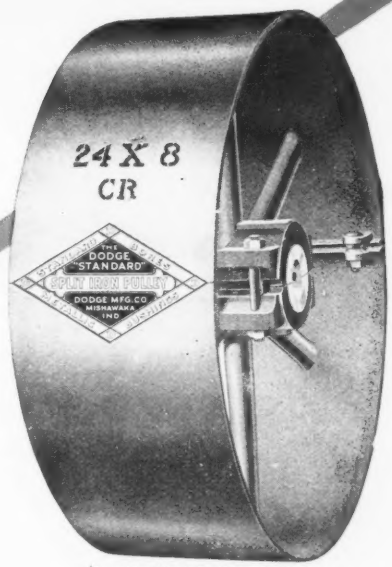
General Offices: Mishawaka, Indiana

PHILADELPHIA: 815 Arch St.
NEW YORK: 21 Murray St.
ST. LOUIS: 408 N. Fourth St.
NEWARK: 59 Mechanic St.
PITTSBURGH: 337 Second Ave.
DALLAS: Great Southern Life Bldg.

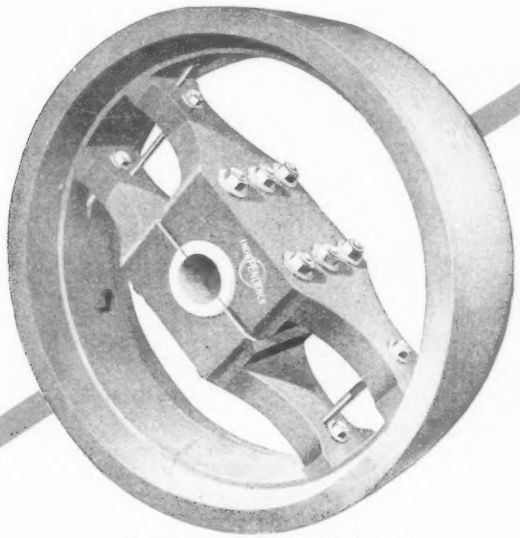
Everything for the Mechan

For Every Customer

needs or prejudices of modern pulley
nothing else; some will be satisfied with nothing
Whether these preferences are based on



"Standard" Split Iron Pulley



"Independence" Wood Split Pulley

"National" Steel Pulley

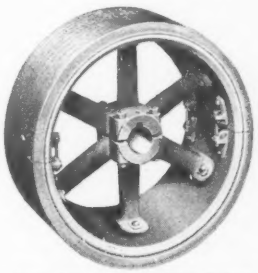
Dodge Cast Iron Pulleys are machine moulded. Their great strength, perfect balance and fine finish make them the most widely used cast iron pulleys.

Oneida and Keystone Steel Pulleys represent the best in steel pulleys. They are made in the largest and most completely equipped steel pulley factory in the world. More than five hundred thousand are giving their owners satisfactory service.

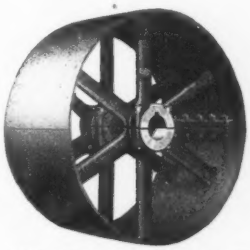
Thirteen fully stocked branch warehouses are at your command for quick deliveries.

The Dodge Line means more profits and less trouble for you.

Write Us for Full Information



Iron Centre Wood Rim Pulley



Split Double Arm Iron Pulley

Solid Single Arm Iron Pulley

Engineering Company

Company and Dodge Steel Pulley Corporation

Works: Mishawaka and Oneida, N. Y.

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CHICAGO: 208 S. Clinton St.
BOSTON: 137 Purchase St.
ATLANTA: 20 S. Forsyth St.
MINNEAPOLIS: 100 N. Third St.
SEATTLE: 522 First Ave., South
PROVIDENCE: 171 Pine St.

ical Transmission of Power

Road Building and Mill Supply Distributors

There is a World of New Business in the Making, and There is No Doubt Dealers in Our Line Will Secure a Fair Share of the Business

At last the world is drawing a long breath. That long breath, that inspiration, signals a labor as arduous as that of the war. The work of destruction is at an end. So, to set its house in order, the world is making ready a road today, the highway of reconstruction. This thoroughfare, branching almost into every land, is to go forward and onward under the hands of millions of men but lately fashioned to fight.

Not merely a figure is this road. It is in the making today in the waste reaches of Europe and in the fat lands of the United States. It is to marshal field and factory, country and city, into a busy army. For the making of this road millions in money already have been spent and hundreds of millions more soon are to go the same way. Business, both of the nation, the state and of the mart, recovering from the blows of battle, is quick to see that an idle house is not a house in order.

This foresight is evident in the tendency, in this country particularly, to re-establish industry, to relocate commerce and to foster calm and poise by giving employment to the returned soldiers and sailors. This movement, which has received official sanction from the national administration, is centered in a conference of governors scheduled in Washington to discuss immediate means to stabilize business and labor. This trend is evident, too, in appropriations of millions of dollars, by the legislatures of many states, for the construction of roads; in the attempts of commercial and agricultural organizations throughout the country to revive interest in the movement for good roads, and in the definite efforts of motor truck manufacturers toward the establishment of rural routes for the economic marketing of farm products. Railway and maritime interests are also active along these lines. They are keenly aware, as are all other forms of business, that good roads, many good roads embraced in intra and interstate systems, mean not only big business but bigger business—a solution in part of the question of the cost of living.

It is patent that the mill supply line is essential to the good-roads phase of reconstruction. Distributors in this industry are as much a part of the good-roads program as are the producers of paving materials.

Road building demands a diversity of equipment and supplies. Where this kind of construction is active there is certain to be enquiries for necessary apparatus. There arises the opportunity of the manufacturer and jobber of mill supplies. Efforts to obtain this business need not be confined to local operations. Communication should be established immediately with contractors or others interested, after the receipt of reports as to road construction. Reference to directories of contractors should be made at once and, if possible, to official data (state, county, township, city or town) as to projected roads or streets. As a rule state roads are under the supervision of state highway commissions, county roads are within the purview of road supervisors or of county commissioners, and city streets are within the jurisdiction of street departments or commissioners. Contact should be established, too, with organizations dedicated to the development of the good-roads movement and, where possible, it is wise to observe the preliminary operations of paving manufacturers and contractors. Automobile associations in the various states generally are aware of the contemplated or actual construction of roads.

Many distributors in the mill supply industry act as agents for the manufacturers of road building equipment, thus incurring little or no liability as to investment. Others operate on a larger scale in the capacity of jobbers. In both instances, as in most forms of business, it is best to specialize, that is, to adhere to and cultivate a certain line of apparatus or supplies. Diffusion of effort usually results in confusion. Mechanisms handled in this business include gasoline engines, compressors, road scrapers, road rollers, harrows, plows, hoisting engines, air hose, graders and mixers.

Frequently a road is projected through a district far from the source of supplies peculiar to the industry. It is in these instances that the dealer is of direct benefit to the road contractor or to the public officials who may be in charge.

The tools—shovels, barrows, picks, spades, tampers, saws, hammers, and drills—commonly handled by mill supply houses are always in demand where roads are building. The maker or dealer who establishes communication and maintains it with road contractors will, in most instances, receive profitable orders.

Spurred by the generosity of the federal government in appropriating in July, 1916, a total of $75,000,000, available in installments until June 30, 1921, as an aid to the states in the construction of post roads, most of the commonwealths have arranged for or are planning the expenditure of as many more millions for similar purposes. The national house of representatives is expected, before the coming adjournmnt, to concur in the senate amendment to the road act appropriating an additional $200,000,000.

The agitation for good roads, now almost universal in this country, is not so much a matter of politics as of public policy, a matter not debatable as to its virtues, certainly not as to its faults, because it is not faulty.

The people of Illinois have approved a bond issue of $60,000,000 for good roads. Minnesota plans to spend $100,000,000, and Pennsylvania $70,000,000.

From March 13, 1917, to December 1, 1918, the state of Missouri, as one of many instances, expended almost $1,000,000 on its highways. This despite an acute shortage of labor and the unrest caused by the war. In 61 counties of the state, 122 road projects, or 1,590 miles, have been approved. "All that is needed," says the latest report of the state highway board, "is man power and materials and these soon will be released by the government. And with the release of man power will come a wonderful impetus to road building. Every returning soldier (and sailor) will know what part good roads played in the winning of the war—will know what are the possibilities of good roads because of having used those of France." Funds for the construction of these thoroughfares are obtained from the collection of state license or registration fees on all motor and other vehicles, from the sale of option stamps and from fees for the registration of corporations. To this fund is added that obtained from the federal government and that from the state monies set aside for the purpose.

California is in the forefront as to the amount of money expended for good roads. The commonwealth already has spent $18,000,000 derived from the sale of road bonds of first issue, and almost one-half of the $15,000,000 of the second issue.

The legislature of Arizona purposes to bond the state for $30,000,000 with which to build a highway system. Several of the counties in the state are planning expenditures ranging from $500,000 to $2,000,000.

In the East, where good roads long have been a part of statecraft, New York is among the foremost as to expenditures. The commonwealth has available a fund aggregating $35,000,000. This is composed of the sum of $20,000,000 obtained from the sale of road bonds, of $8,000,000 from state and federal appropriations, $5,000,000 contributed by counties and $2,000,000 from other sources. The Empire State already has 7,300 miles of state highways and has contracted for 500 more miles. All this mileage has been made possible without recourse to the $35,000,000 fund referred to here. For the maintenance of roads during the coming season the state plans to expend the usual annual sum of $4,000,000. Before the war New York constructed about 500 miles of improved highway each year, and it is likely that that rate of construction will continue.

In South Carolina the Automobile Association has begun a campaign to induce the people to vote a bond issue of $25,000,000 for good roads. The bonds are to be paid by increased fees for automobile licenses. Sentiment throughout the state favors the plan, and it is probable that several counties, anticipating the demand for improved highways, will issue bonds for the payment of which they would assume liability.

The state of New Jersey is resuming the construction of highways, which was interrupted by the war. It imposes a tax of 1 mill on every dollar of assessment on real and personal property.

In Wisconsin it is planned to spend this year the sum of $12,000,000 for good roads. This sum includes the funds derived from state and federal aid, but excludes the cost of construction contemplated for the improvement of streets in cities and towns. The latter amount would increase the proposed outlay to $18,000,000.

Maryland, by legislative act, appropriated $3,000,000 for good roads. Most of this money will be spent this year and next.

During 1918, the first year in the active life of the state highway commission of North Dakota, almost 250 miles of earth and gravel roads were built. These cost $325,000. The commonwealth now is ready for the similar construction of 200 more miles which are to cost $350,000. Surveys have been made for building 325 more miles of road at an estimated cost of $550,000. Because of the scarcity of contractors it is likely the counties in the state will undertake the work. Municipalities, townships and counties are contemplating the expenditure this year of an additional $2,500,000 for the construction of roads and bridges. Agriculture, the chief industry of the people of the state, long has seen the necessity for and the economic worth of good roads, of a system of highways.

The people of Oklahoma are urging the adoption by the legislature of a bill providing a bond issue of $50,000,000, the receipts of which are to be spent in the establishment of a state highway system.

All receipts above $250,000 from the state income tax in Delaware and those from the sale of automobile licenses are credited to the highway department for expenditure on the highways. The bill, which became law in 1917, creating the highway department also provided for the issuance of bonds for the construction of thoroughfares.

The legislature of Idaho purposes the expenditure of $10,000,000 the next two years for buildings and roads; Massachusetts has available for good roads this year the sum of $4,600,000 in state funds, almost 400,000 contributed by cities and towns and about $200,000 appropriated by counties, and the legisalture is considering the expenditure this year of $2,000,000 more. During the last 25 years the Bay State has consistently adhered to a policy based on the systematization of its highways.

Senators in the state of Washington are considering a bill for the issuance of $30,000,000 in bonds for the construction of paved roads. Receipts from an increased automobile tax are to be applied, in the bill, to the fund for the payment of the bonds. Kansas is favoring an amendment proposed by the legislature providing a bond issue for good roads.

It is considered probable that the legislature of Rhode Island will appropriate $500,000 to be expended this year on the roads. The legislature of Montana

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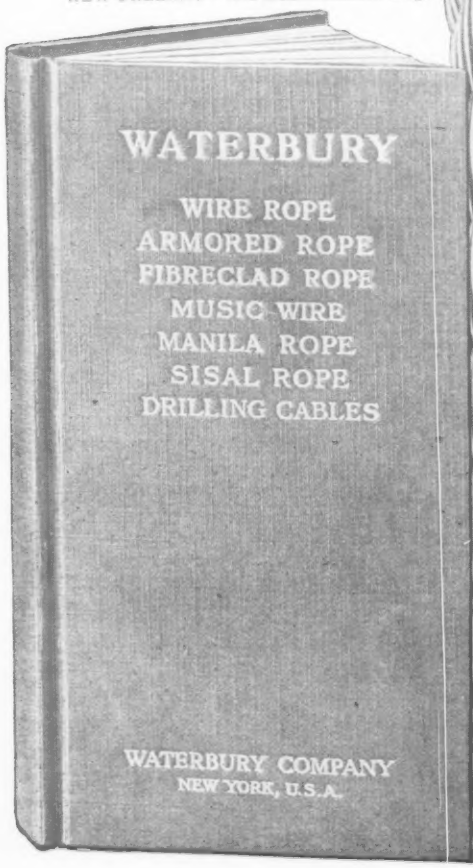
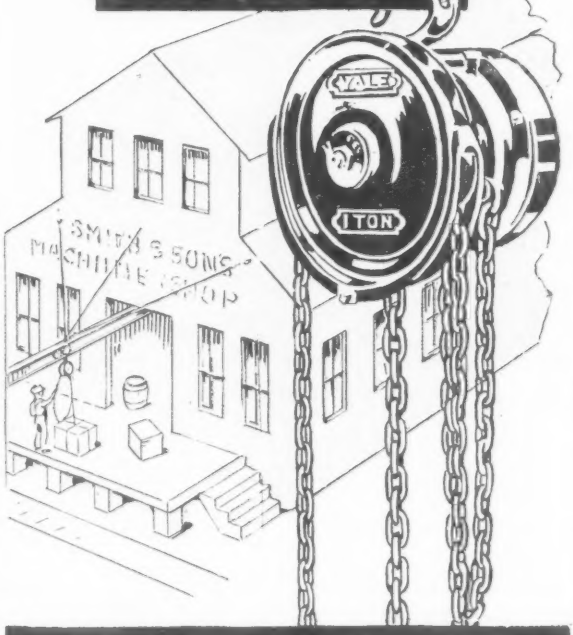


TRADE YALE MARK



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The Yale & Towne Mfg. Co.

9 East 40th Street New York City

is considering a bond issue of more than $15,000,000, and the state highway commission is co-operating with the federal government toward increasing the road mileage within the state.

Two years ago the legislature of Oregon voted a $6,000,000 road bond issue. During the war $2,000,000 was spent and the legislature now proposes another bond issue of $10,00,000. A tax of $12 on every motor car and of 1 cent on every gallon of gasoline feature the proposed legislation.

Thus, during the years of the war, 18 states of the 48 in the union, have spent or propose to spend more than $750,000,000 in the construction and maintenance of good roads. This huge sum, with those under consideration by most all of the 30 remaining states, will represent concretely and indubitably the irresistible movement of the nation for good roads.

These projected roads not only imply the employment of almost one billion dollars, but an army numbering hundreds of thousands of men.

The Minnesota legislature has just submitted a proposed constitutional amendment to be voted upon by the people in November, 1920, providing for a complete system of trunk highways throughout the state. The amendment provides for 6,700 miles of hard surface roads. Motor vehicles will be taxed to build and maintain these roads. If the amendment is ratified by the people, it is the intention to begin road construction at once. The limit of expenditure for any one year is $10,000,000. There appears to be a strong sentiment in favor of the amendment.

Florida is prohibited by the state constitution from issuing state bonds for road improvements, but there is a movement on foot, which is receiving strong support, to submit to the electors a proposed amendment to the constitution authorizing the state to issue road improvement bonds to the extent of five percent of the assessed valuation of all taxable property in the state. This would amount to approximately $20,000,000, and the proceeds of the bonds would be used for construction of a state system of highways under the supervision and control of the state road department. Official statistics show that even at the present time Florida is expending more money per capita on road building than any other state. This money has come largely from county and district bond issues for road improvement.

Need of Grappling With the Labor Problem

The Time Has Come When the Question Must be Settled on a Broad Foundation of Mutual Interest and Fair Play Between Labor and Capital

L. W. ALWYN-SCHMIDT

Of the mass of contradictory sensations the country is undergoing at present as the result of the industrial readjustment there stands out one, clearly and overtowering all others, the need for immediate action with reference to the labor situation. This need is so great and urgent that all other problems will have to stand back until a solution is found for this. The time has passed when we can talk learnedly about the demands of labor, about wages and competition. Nobody grumbled when wages went up as the result of unprecedented conditions caused by war, and all paid willingly the higher prices resulting from the higher cost of labor. But now the end of the war has come and with it the normal conditions of international competition must return. Prices of all commodities will decline, and no means of artificial support will avail against this occurrence. Also there will be less work, unless we are willing to continue to work for other nations as we have done during the war. To do this, however, we can not insist upon prices much above those charged by our competitors in the world's market, we must supply our goods at competitive rates. Otherwise the world will decline to accept them.

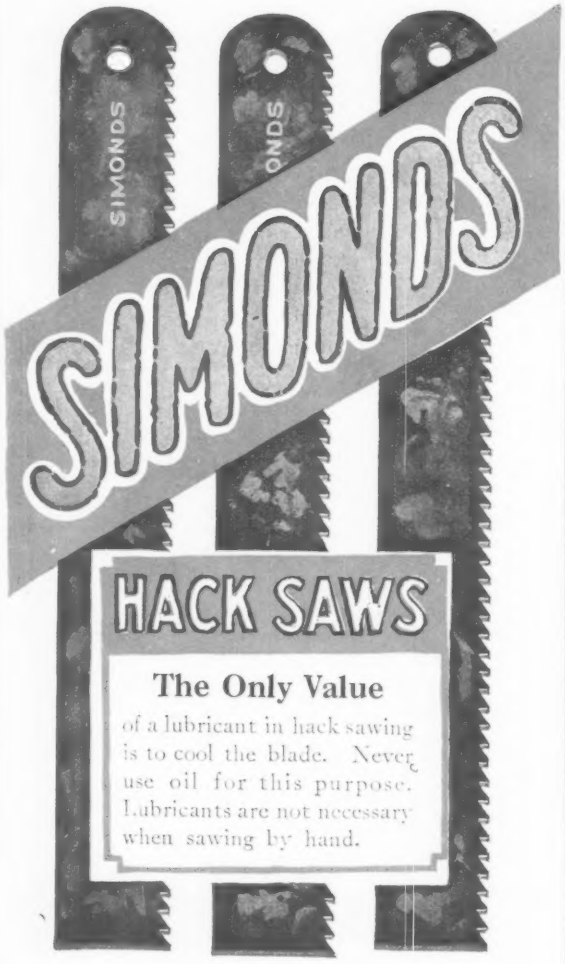
The principal danger which confronts us today is that of delay in dealing with a situation which can not be remedied by letting it cure itself. What we have to avoid is the isolated attempt of a cure, which does not take into consideration the disease, but tries to remove only its most apparent effect, labor unrest.

Labor is no separate part of the productive energy of the country, but an inseparable link in an endless chain which can not be weakened in one spot without mortal risk to the whole. So capital cannot decide upon a policy in defense against labor which does not also take into consideration the industrial life and prosperity of the whole country.

The battle which is now developing is no simple wage dispute. It is one for control. But the idea of control is incompatible with the advanced conception of the life of a democracy, the ideals of which are calling for co-operation rather than for domination. Therefore the battle must not take place, a truce must be called and a settlement attempted of all the controversial subjects.

There is no doubt that the present trouble might have been avoided if we had been prepared as well for the coming of peace as we prepared ourselves for war. But such an avoidance would only have put off an event which was bound to come. As a sudden cold will often help to develop a hidden disease, so the war has hastened this present trouble. The cure now may be taken in hand while it is in an acute state and we should not let it pass again into its chronic form, with its permanent danger to our national life.

Let us at first dispose of a few of the outstanding fallacies. It is often said that American industrial prosperity is independent of the prosperity in other countries, and it has been an accepted theory in many of the



The Only Value

of a lubricant in hack sawing is to cool the blade. Never use oil for this purpose. Lubricants are not necessary when sawing by hand.

Tell your Customers how to cut metal easier

Tell them to buy

SIMONDS

Saw Steel Products

Write for Catalog of Hack Saws, Cold Saws or Metal Slitting Saws.

Simonds Manufacturing Co.

"The Saw Makers" *Established 1832*

Fitchburg, Mass. **Chicago, Ill.**

5 Factories - 12 Branches

Here's a belt

IMMUNE FROM STRAIN

It is

Stanley Belting

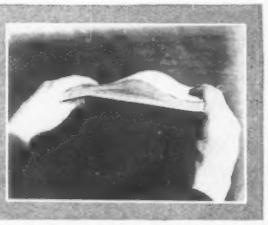
Solid Woven Cotton

and its special construction not only gives it greater strength and flexibility than is possessed by any other belt, but, most important of all, it enables it to ride over the smallest pulleys without buckling and tearing the inner and stretching the outer surface of the belt to the breaking point.

Paper Pad Example

To illustrate belt strain take a pad of paper and, holding it firmly at the ends, bend it over an arc. The outer sheets will be stretched to the breaking point while those on the inside are forced into big humps or ridges. Large spaces develop between the "piles" on the inner half of the pad.

Now straighten it out, still holding it firmly at the ends. The action is reversed. The outside surface now buckles up in ridges, while the inside surface is drawn tight. This time the spaces develop in the outer half of the belt.



This is BELT STRAIN, and it is the greatest enemy of belt life known.

The constant strains and stresses set up in forming the pulley arc and then straightening out for the "long run" soon separate the strongest plies and tear and break the most perfect stitching.

Stanley Belting

Solid Woven Cotton

STANLEY BELTING—Immune from Strain—is your belting. It has set unequaled records for continued service at low cost for others; it will for you.

Send a letter now, for information and price lists, to

Stanley Belting Corp.

32-40 So. Clinton St. **Chicago, Ill.**

recent disputes between capital and labor that the industrial life of the United States is immune from outside influences; that high protective duties and the economically isolated position of this country give it an economic energy of its own. This conception is wrong. During the census period from the year 1909 to 1914 the value of the industrial production of the United States increased $3,400,000,000. During the same period the exports of manufacturers of food stuffs, materials partly manufactured, and completed industrial products, increased $529,000,000. Of the total increase in production, therefore, only $2,800,000,000 could find a sale in the United States. For the rest foreign markets had to be relied upon. During the same period the foreign demand for American crude materials rose from $520,000,000 to $792,000,000, an increase of $272,000,000.

Further it must be taken into consideration that of our total industrial production valued during the year 1914 at $24,246,000,000, we exported $1,305,304,886. This is more than one-twentieth of the total production. To manufacture the goods required for foreign trade the industry had to buy raw materials costing $728,000,000, and 378,000 men and women found employment with a total payroll of $210,000,000. Deduct our foreign trade, and of every twenty men employed in American industry one would be out of work, while the country would lose nearly $2,000,000,000 on national purchasing power including wages, raw materials, manufacturers' profits, profits to shipping, etc. Instead of requiring an annual production of $24,000,000,000 a little over $20,000,000,000 would have been sufficient to cover our needs.

But foreign trade has increased since the last industrial census, and our industry has adjusted itself to the higher demand for American goods. The surplus of labor, unemployed under normal circumstances, has been made employable by this unexpected activity. If it should cease now the result would be, as it has been in fact already, the idleness of great numbers of men. If it does not return, additional numbers may become idle, and remain idle for many years to come. No artificial restriction of immigration, no arbitrary regulation of production or wages will hinder this development. It will be the natural outcome of the situation as existing today.

To export, however, we must be able to sell at rates which make it worth while for other countries to buy. How true this is we had only quite recently an example in the difficulties over the disposal of our present food surplus in a market of rapidly declining commodity prices. If the world can buy an article cheaper in one country it will go to that country for its supplies. Having to dispose of a twentieth of our industrial production abroad at the peril of causing idleness among nearly 400,000 men of our national labor force, it becomes the duty of all of us to see that we retain our foreign markets, that in fact we try our hardest to increase them. If this can not be done in the manner we should like to do it, we will have to arrange our production accordingly. This is a truth which should be clearly understood by the whole nation, by labor as well as by capital.

The second fallacy is that high wages are an antidote against the high cost of living. No economic misconception probably has caused more harm to the settlement of labor disputes. The men, faced by the phenomenon of continually rising prices, naturally see no other way out of their difficulty than to ask for higher wages. No doubt $25 buys more than $20, and a raise of five dollars a week apparently represents a considerable improvement in the economic condition of the wage earner. But considerable larger wage increases have taken place in this country during the last four years, and after all the economic situation of the men has not changed. It has remained practically where it was.

Every wage increase has been accompanied or even foreshadowed by a corresponding increase in the cost of commodities. To understand this problem completely it is necessary to atack it from another than the purely wage angle. We all work to provide for ourselves a certain standard of comfort. This standard of comfort consists in our ability to purchase a home to live in, a certain quantity of eggs, butter, bread, meat, and whatever we think necessary for the upkeep of our bodily existence, including the commodity called pleasure.

In the early days of human community life, wages doubtless were paid in commodities. Even today there exist wage agreements which provide in part at least for the supply of certain commodities to the wage earner. Money has replaced the commodity as a more convenient form of measuring the service, but the money is only given in place of the commodity. The wage agreement, therefore, means economically nothing else but the hiring of a man's labor against the promise of giving him a certain standard of comfort and enjoyment of life expressed in a monetary figure. If the cost of living rises there takes also place a corresponding devaluation of the measuring unit—money. The wage earner no longer receives his proper due in commodities. He, therefore, claimors for—higher wages. So far everything seems to be clear.

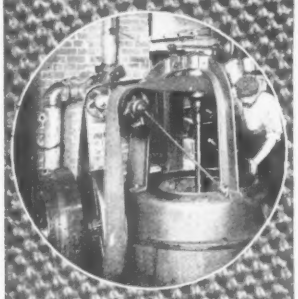
But what now creates this peculiar rise in the cost of the commodity and its corresponding decline in the purchasing power of the money? It is again necessary to turn back a little for an explanation. The great fundamental commodities of our world are produced without the aid of men. We find iron in the ground, plants offering food are growing wild. But to take the iron from the mines and turn it into machinery, to make the fields produce more than what nature thinks essential to keep up the permanent rotation of life, we have to exert ourselves. Every such exertion represents a certain improvement on the original material—it increases its value.

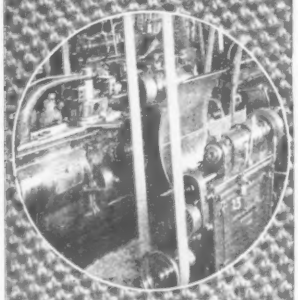
This increase of value is the payment for labor. Somewhere in the history of the world the desire for special recompensation began. A western gold rush withdrawing men from their Eastern employments forced the employers of labor to pay higher wages to those remaining so as to keep them on their job, and the permanent screw of rising wages was started. This process naturally has taken place much earlier in the economic history of the world, but similiar occurences as the discovery of gold in California, for instance, have kept the screw in motion.

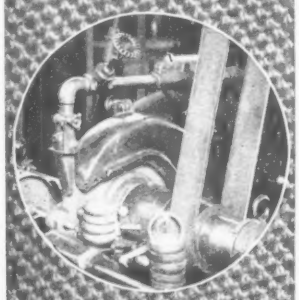
1,000 Looms

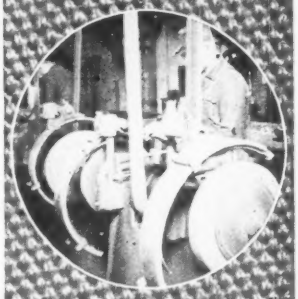
38 Factory Bldgs.

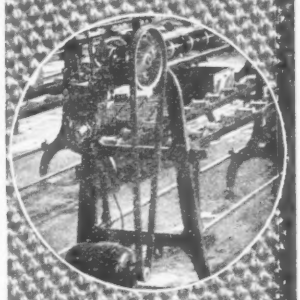
RUSCO

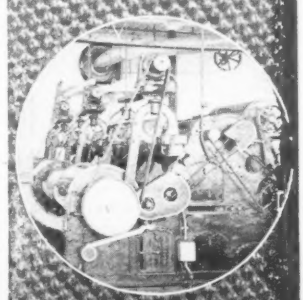












BELTING EFFICIENCY

as well as its economy has been proven in many various employments. Its great tensile strength, minimum stretch, and the fact that it is made, when required, absolutely oil and water-proof, give solid woven

RUSCO BELTING

a great advantage over more costly material. No matter what the conditions may be, or to what use the belting may be put in your plant, Rusco Belting will prove its worth and its economy.

Write today for data as to where and how Rusco Solid Woven Belting is used in plants like yours.

The Russell Manufacturing Co.

Home Office and Factories **510 Russell Avenue**

Middletown, Connecticut

NEW YORK CITY 349 Broadway | CHICAGO 1438 Michigan Ave. | DETROIT 18 Alexandrine Ave., E.

ESTABLISHED 1830

Every rise in the cost of labor, however, also adds to the total cost of the material on its way to completion. The operator in a shoe factory asking for higher wages raises the cost of shoes to his neighbour, the grocer; the grocer again, protects his right to a standard life, by adding to the cost of groceries. The end is, that the grocer still gets only one pair of boots notwithstanding his increased earnings on the sale of groceries, and the shoe operator has to spend his wage increase on the same dozen of eggs which he bought cheaper before the screw made its newest turn. High wages, therefore, are not an antidote against the high cost of living and the devaluation of the purchasing power of money, but rather add to it.

THE FALLACY OF THE OPPOSING INTERESTS

The third fallacy is that of the opposing interests of labor and capital. This is the worst of the three. Industrial production knows four great groups of cost factors. The first is labor, the second material, the third the so-called overhead, including fuel, rent, etc., and the fourth the manufacturer's profit. Letting alone the salaried employees of the factory, the position between labor and employer is approximately as follows: There have come together a number of people, the men on one side, the owners on the other, for the purpose of producing and selling a certain article. The owner provides not only the necessary capital to this end, but also gives his brain work. The men give their brains and their hands. To make possible manufacturing at all, it is necessary that materials, buildings, and a commercial staff should be provided. These are the expenses of the enterprise as between owner and men. The profit which remains, after these expenses have been paid, is divided.

If the men stop work the factory ceases to operate. If they stop long enough, it most likely will cease to exist. What is the result? The production of a number of able-bodied men valued at aproximately $3,000 in each case is gone. With it goes their own buying power and that of their factory. Fifty percent of the total turnover of the factory most likely was spent in raw materials which were bought from other factories. These factories immediately will feel the demise of the first productive unit. The results would probably not be quite as disastrous should the owner go on strike. It is much easier to find an employer of labor than many a factory owner may think. Nevertheless his going is a risky matter to the factory. The dissolution of small factories following the death of the owner most certainly is rather the rule than the exception. The interests of capital and labor to the permanent and prosperous operation of our national industries, therefore, is analogous.

There are other fallacies at the bottom of present day labor disputes. But the three mentioned are the most outstanding, while all others more or less result from them. In their stead we now place three fundamental truths, the recognition of which will do a good deal to help in the adjustment of our present national labor problems.

1. *American industrial life and its prosperity is dependent upon economic conditions in other countries.* Therefore, the cost of production in our country must be regulated on the basis of that of other countries. The necessity of having to sell part of our industrial production abroad, creates the necessity of selling at competitive prices.

2. *High wages increase the cost of living.* Means must be found to stop the present rising tendency of the cost of labor and to reorganize wage compensation on a different principle than has been in use until now.

3. *The interest of capital and labor are identical.* Therefore, the common interest has to be strengthened.

On this basis a mutual settlement of all outstanding disputes should be attempted. The attempt must be made early, and must be of such a character as to hold a promise of permanency. Labor and capital must understand that while they themselves are standing on the opposing poles of the controversy, there exists a large middle class of merchants and consumers which watches with interest the procedure.

But a solution seems not impossible if honestly approached by all. The first thing to be secured is an expression of willingness. Then a meeting must follow. A commission should meet composed of the men and the owners, and the general public should hold a watching brief. During this meeting a clear statement should be made of the ends and aims of each of the contending parties so that a basis for negotiation can be provided. There must be justice—justice to owners, to men and to the consumer. The fact that the world has not yet found a solution for the problem of regulating the relation between its producers does not mean that such a solution can not exist. Certainly the great ideal of democracy, for which so many have died during the last few years, should be applicable to further evolution, to make for better co-operation with reference to so important a part of our national existence as that of providing for the happiness of all.

NATIONAL ACTION PROPOSED

The problems arising from such a conference should be studied with a view for an adjustment. Where immediate action can help this action it should be taken without respect to the general aims. Each step ahead means progress, and progress is bound to lead us to something approaching perfection. The meetings should be nation wide, giving ample opportunity for general discussion.

No narrow individual interests should be allowed to stand in the way. And especially do not let us be sticklers for words. Socialism, anarchism, and bolshevism, are fine words, if we only knew exactly what they mean. If what they cover is wrong, if it is not compatible with the ideals of a democracy, it must go. It must be eliminated from our industrial life as dangerous to real progress and to real co-operation. If there is anything good in them let us have a look at them, possibly that all or part may be employed in the solution of our problems.

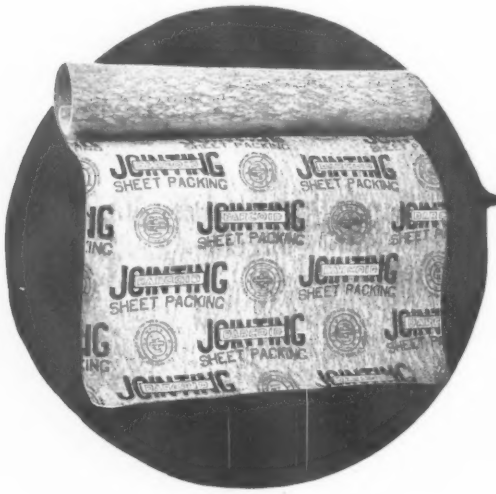
There are great prizes to be won still in this life for us and the future looks good. If only we can clear our decks for action!

One packing
for every requirement

JOBBERS know the advantages of having ONE packing which will efficiently meet every possible packing requirement. This means ***small*** stocks, quick turnover, larger profits, satisfactory service.

DARCOID can be effectively used anywhere and everywhere. No job too big—none too small. Buy **DARCOID.** Sell **DARCOID.** Build substantial profits with this universal packing.

Dominion Asbestos and Rubber Corporation
154 Nassau Street : New York
Branches: 67 Murray St., New York; Baltimore, Philadelphia, Richmond



Automobile
Gas Engine
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DARCOID

MOTOR TRUCK REGISTRATION

More Than Half a Million of Record, of Which the Farmer Uses Approximately Eighty Thousand

In connection with the aroused interest in good roads, the statement is made that there is a registration of upward of 550,000 motor trucks in use in the United States. Assuming that the average capacity is two tons, these trucks will carry in one load enough 70-pound rails to build a 3,000-mile railroad. Assuming that a truck covered 50 miles per day, and used an average of one gallon of gasoline for each eight miles, they would consume 3,347,500 gallons, which at 23 cents a gallon would give an annual fuel consumption of $246,005,000. Out of this it is estimated by a leading producer of truck tires that the farmers employed 78,789 trucks. According to these figures, the farmers are among the largest truck users in the United States.

During 1918 the annual production of American truck makers increased 45 per cent over the previous year, 175,000 trucks being made for civilian use, and 56,000 for war uses. This is against 160,000 manufactured for civilians in 1917, and approximately 16,000 for war purposes. It is stated that at the present time most of the truck makers are running at nearly normal production.

DEATH OF JOSEPH SILLMAN

Founder of Michigan Smelting & Refining Co., and Prominent in Detroit's Industrial and Social Life

Joseph Sillman, president and founder of the Michigan Smelting & Refining Co., died Saturday morning, February 15, at his home 2974 West Grand boulevard, Detroit, of pneumonia.

As a business man Mr. Sillman came into bold relief during the last 20 years as a result of his phenomenal success in developing the manufacture, smelting and refining of non-ferrous metals. His special abilities in the reclamation of certain waste materials were recognized by the government, and he was made a member of the committee directing the distribution of non-ferrous materials and the reduction of waste of these materials.

He was also active in the government work of controlling the distribution of tin during the serious shortage of that material. He educated himself in the science of metallurgy and studied constantly methods of controlling and using alloys.

Mr. Sillman was born March 9, 1870, and went to Detroit 25 years ago. He established the Michigan Smelting & Refining Co. in 1900, and was its dominating genius up to the time of his death.

As his own business grew, Mr. Sillman became interested in other enterprises and at his death was vice-president of the Peninsular Brass Works, secretary and treasurer of the Thiery & Kendricks Manufacturing Co., and president of the Valley Smelting Co., of Cleveland, Ohio.

Both in his business and social life he was popular and in charitable work very active. He was director of the United Jewish Charities and a member of Ashlar lodge, F. & A. M., King Cyrus Chapter, Michigan Sovereign Consistory, the Shrine, Elks, Knights of Pythias, Phoenix Club, Red Gun Golf Club, Detroit Board of Trade and the United States Chamber of Commerce.

He is survived by his widow and two sons, Norman and Cecil. Norman was associated with his father in business and Cecil is a cadet at the Northwestern Military Academy, Lake Geneva, Wis. In business and private life Mr. Sillman's outstanding characteristic was his unselfishness and Americanism.

War Activity Shown in Calendar

The Youngstown Sheet & Tube Company's annual calendar for 1919 is out, and is, perhaps, the handsomest of the interesting series issued by that company. It contains twelve new views, 8x15 inches, in two colors, each showing one of the spectacular operations in a modern steel mill. The illustration on the front page is a night view of the main plant while it was speeded up on war work and flood-lighted as a war time precaution. This remarkable picture was made from a photographic plate which had been exposed two hours, and is regarded as a triumph of night photography. The calendar will be sent to any address on receipt of four cents in stamps to pay expense of mailing, if request is addressed to the publicity department of the Youngstown Sheet & Tube Company, Youngstown, O.

R. E. S. Geare Heads New Company

R. E. S. Geare has been elected president of the Mid West Manufacturing Company, recently incorporated. Mr. Geare is well known to the construction and power plant field in Chicago and the middle west because of his active representation of the T. L. Smith Company, Manistee Iron Warks Co., Geare & Company, and others, which work he will still continue. The Mid West Manufacturing Company has located its factory in Chicago, with general offices in the Old Colony Building.

Death of C. E. Mueller

Charles E. Mueller, secretary of the Philip Gross Hardware Co., Milwaukee, died February 24 at his home in Milwaukee. Mr. Mueller was born in Milwaukee in 1858, and entered the employ of the Philip Gross Hardware Co. in 1884. Mrs. Mueller and six children, three sons and three daughters, survive. The sons are all active in the company.

Fight Pittsburgh Differential

The campaign of Chicago manufacturers of rolled steel products to obtain the abolition of the freight differential of $5.40 per ton now existing in favor of Pittsburgh was launched February 25 at a dinner of the Purchasing Agents' Association of Chicago, at the Hotel La Salle.

GARCO

ASBESTOS PRODUCTS—BRAKE LINING—PACKINGS—TEXTILES

GARCO ASBESTOS PRODUCTS

Packings

Locomotive Throttle and Air Pump Packings
High Pressure Piston Packings
Valve Stem Packing
Medium and Low Pressure Packings
Perfect Valve Rings
Flax Packings
High, Low and Medium Pressure Sheet Packings
Gaskets and Gasketting Material
Asbestos Wick and Rope

Asbestos Automobile Specialties

Brake Lining
Transmission Lining for Fords
Cone Clutch and Disc Clutch Facings
Asbestos Spark Plug Yarn

Asbestos Textiles

Cloth Yarn Cord
Carded Fibre Braided Tubing

Put in Packing that Stays Put

THERE'S double economy in the use of a packing that stays on the job. You save your own time because you don't have to do the same work twice. You eliminate shut downs that cost many times the difference between good packing and cheap. Don't take chances on low-priced, undependable substitutes—today—now—make up your mind to try

Garcobestos Asbestos Metallic Sheet Packing

Garcobestos is made to make good—guaranteed to stand up under the highest pressure and to meet the most severe operating conditions ever found in steam or gas engine service.

Garcobestos is made of finest grade, long-fibre asbestos, spun around a net work of fine strong wire. It is waterproofed with special Garco Compound—made to give longer, better service, than any rubber sheet packing could ever render.

Standard finish of Garcobestos, style No. 670, is red one side, graphite the other. It is furnished in full rolls of 250 lbs., half rolls of 125 lbs., 40 inches wide—all standard thicknesses. Also furnished in durable GASKETTE ROLL CARTON containing 1 piece cut 10" wide by 40" long.

Ask your jobber to quote you. If for any reason he can't supply you write us direct. Let us send you working size sample—FREE of all charge.

General Asbestos & Rubber Co.

Main Office and Factories: Charleston, S. C.

Branches and Complete Stocks: 58 Warren St., New York, 106 W. Lake St., Chicago
311 Water St., Pittsburgh

LARGEST MANUFACTURERS OF ASBESTOS TEXTILE PRODUCTS IN THE WORLD

EDWARD H. BRINK RETIRES

Leaves the Mill Supply Distributing Field in Cincinnati and Returns to His Law Practice

Edward H. Brink, who has been associated with the Wirthlin-Mann Co., Cincinnati mill supply distributors, since January 1, 1915, has retired from the firm and it is stated will hereafter devote his entire time to his law practice. In 1912 the Wirthlin-Mann Co. took over the Wirthlin-Scallan Co., the new firm being composed of Edward N. Wirthlin and George A. Mann. The two latter united with Mr. Brink in January of 1915 in reorganizing the company. At that time it

EDWARD H. BRINK

was a small house, but developed rapidly and in 1916 moved from a small store space of 40 x 90 feet into their present home with approximately 20,000 square feet of floor space.

Mr. Brink sold his holdings to Messrs. Wirthlin and Mann on February 11, 1919. On retiring he gave a dinner to the entire organization at the Hotel Sinton on the evening of February 15. There were forty guests, and it proved a very delightful farewell party. Mr. Mann is considerable of a versifier, and to demonstrate it and to express firm appreciation of Mr. Brink perpetrated the following:

E. H. We're glad you brought us here—
  You're the big chief bringer it would appear.
You brought us up from the small house stage,
  Till you might say now we've become of age.

We needed guidance, we needed the vision,
  We needed help frequently to reach a decision;
We needed assistance which you could give,
  So you finally came, came with us to live.

We've grown, we've developed, we're big and strong,
  And just as you say we should get along;
It's because of your help as pal and adviser
  That we find ourselves bigger, better and wiser.

We'll always feel grateful, thankful, indeed
  For your having brought us so far toward the lead.
There's been a change, but no change of heart,
  Of the W.-M. structure for life you're a part.

Where ever you go, where ever you be,
  Our very best wishes'll go out to thee.
May happiness be yours all your life through,
  Is the hope and the prayer of the W.-M. crew.

Here's a small token to take as we part,
  Put it in your vest pocket over your heart.
Truer words than these you're eyes will ne'er scan,
  You go with best wishes of Wirthlin and Mann.

The employes of the house presented Mr. Brink with a handsome diamond scarf pin and the executive staff gave him a very handsome gold case fountain pen. Mr. Brink says that he enjoyed every minute of the busy months he spent gaining mercantile experience, and took great pride in seeing the house develop from probably the smallest in its line in Cincinnati to its present envious position in the trade.

BACK TO FIRST LOVE

William P. Marcy Joins The Hollow Center Packing Co., With Headquarters in Cincinnati

William P. Marcy has been appointed special traveling representative of the Hollow Center Packing Company, Cleveland, with headquarters in Cincinnati. Mr. Marcy states that in accepting this appointment he is returning to his old love, packings, and that almost his entire experience in the selling

WILLIAM P. MARCY

game, covering a number of years, has been devoted exclusively to packing and leather belting. Mr. Marcy left the packing field about five years ago to take up leather belting.

Many dealers in the South and Southwest will no doubt immediately recall Mr. Marcy from the halftone herewith, as he was for several years located in Dallas, Texas, as representative of Bonner & Barnwell, Inc., and enjoys a wide acquaintance with mill supply dealers in the Southwest.

"Burmaline Belting is the most profitable line I carry"

BURMALINE BELTING

The belting which is a positive substitute for leather and costs 50 per cent less.

BURMALINE BELTING meets every service condition of non-waterproof leather, lasts just as long and requires less attention. When used as a shifter belt it will not fray at the edges and is strong, serviceable, and economical wherever used.

One of our agents who sold $50,000 worth of Burmaline Belting says:
"Burmaline Belting is the most profitable line I carry among my mill supplies, because I am giving the consumer something which I regard the equal of leather belting for less money than I could buy the best grade of leather, and besides I am making more profit for myself than I could even hope to make on any leather belting that I might handle."

Alfalfa is the name on our green waterproof belt. It will not get hard in cold weather. The plies cannot separate, therefore, eliminating repair costs and time loss. It has greater tensile strength than leather and costs less than cheap rubber belting. **Alfalfa** belting is used extensively in competition with stitched canvas. Found in almost every mill supply house in the country. If you don't carry **Alfalfa** in stock, it's time to investigate our proposition.

Write for Our Dealer Proposition

BURRELL BELTING COMPANY

413 South Hermitage Avenue, Chicago, Ill.

Tips From the Direct Advertising Field

Many Catalogs and Booklets that Are of General Interest to Both Distributors and Manufacturers — A Fine Chance to Add to Your Collection

"The story of Schieren Beltings," a 36-page booklet, printed in multi-color, really amounts to a text book on the leather belting business. It is one of the most attractive trade publications gotten out recently, each sheet of paper used for the insides having gone through the presses fourteen times. This attractiveness has the value of causing the recipient to retain the booklet, even though he is not interested in the subject of leather belting at that particular time, or else of turning it over to another in his organization who might benefit by it. The business of tanning hides and manufacturing the leather into belting is treated in such a thorough manner, step by step, that the layman cannot help getting quite a knowledge of the extreme amount of care, time and skill wrapped up in each piece of leather belting used in his plant and, having this realization of value, he will be more likely to give that same belting a little more care and attention, with the result that he himself will get more out of it.

The Graton & Knight Mfg. Co., Worcester, Mass., oak leather tanners and belt makers, have gotten out a very finely illustrated catalog in two colors showing the different processes of belt-making from the receiving of the hide right through to the finished belt. This catalog consists of 124 pages and cover, besides a special three-page insert of their factory. It not only illustrates and describes the different products made by Graton & Knight, but shows what can be accomplished with unsurpassed facilities for the manufacture of high grade leather belting and leather specialties. The belting section fully explains the characteristic qualities, the particular differences and the capabilities of their different brands of belting. It also embodies mechanical rules, tables and other information which should be of value in determining the most efficient belt for any drive or in assisting with other transmission problems. The company manufactures the standardized series leather belts, which they have advertised extensively in the national and trade field. Besides belting they also make cup packings, pump leathers, automobile leathers, blanket straps, trunk and suitcase straps, trunk handles, halters and other leather products such as insoles, outsoles, counters, box toes and Goodyear welting for the manufacture of shoes. There is a copy waiting for you.

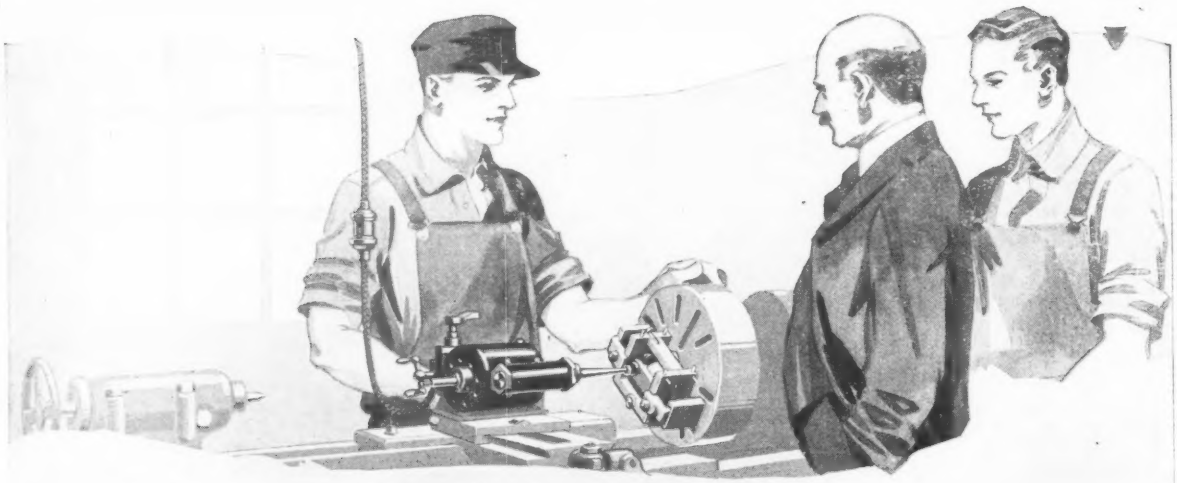
The Jeffrey Manufacturing Co., Columbus, Ohio, is distributing catalog No. 144, containing 40 pages devoted to details of elevators selected out of numerous styles used in the handling of a wide range of materials in practically every industry of the country, and known as Jeffrey standard elevators. A page is given to each Standard Elevator which is illustrated, both in perspective and in line drawing giving dimensions. There is also an illustration showing the chain and bucket used in that type of elevator, and at the bottom of each sheet is given a full list of all specifications applying to that particular elevator. The numerous examples and subjects which have been thoroughly outlined in this book, enable the prospective purchaser to readily select the proper standard elevator to meet his requirements, thus saving the time and expense heretofore required in making layouts and drawings for his own particular needs. The catalog is now ready for distribution to the trade.

The "Blue Book of Supplies" is the title given by the Pittsburgh Gage and Supply Co., of Pittsburgh, to its new catalog No. 12. If one is interested in knowing what a large mill supply house in a great industrial center like Pittsburgh is expected to keep in stock for quick delivery, a glance through this catalog would be illuminating. There are many lines that do not seem to fit into the classification of "mill, mine, machinists' and railroad supplies," as stated on the title page, but which, nevertheless, are essential to the industries which depend on mill supply houses. In addition to the lines mentioned are supplies for carpenters and builders, linemen, foundries, electricians, woodworkers, wagon makers, contractors, pavers and roadmakers, elevators, plumbers, tinners, steamfitters, roofers, loggers and lumbermen, garages, as well as lines of scales, harness, tents, waterproof clothing, building hardware, lawnmowers, first aid supplies, etc. The catalog covers 2012 pages, was compiled by O. W. Russell, Chicago, is well printed and illustrated, and thoroughly representative of the house and the lines covered.

Greenfield Tap & Die Corporation, Greenfield, Mass., has recently issued catalog No. 40, listing its line of taps, dies, screw plates and reamers. The other lines which it manufactures, namely, pipe tools, machine tools and gages, are taken care of in separate catalogs, as follows: Pipe tools, No. 38; machine tools, Nos. 39 and 41; gages, in course of preparation. A pocket edition of catalog No. 40 is now ready, and will be supplied to jobbers and dealers for general distribution to the trade.

The new price list of the Charles A. Schieren Co. differentiates the various brands of Schieren beltings, not only by name and marking, but also by grades and weights. This is a valuable feature to the buyer as it enables him to select by name belting which will meet his specifications, and he will know exactly what to expect when ordering by name. It also obviates to a great extent, chances of the buyer selecting a belting largely upon a price basis, as the specifications show what can be expected of the various brands, in actual service. In other words, while the detail specifications enable the buyer to select a brand of belting best suited for his service, these same specifications also tend to keep him from selecting a brand which would not do his work satisfactorily.

The fourth edition of "The Starrett Book for Machinists' Apprentices," published by The L. S. Starrett Co., Athol, Mass., has just been issued. The book, now in its thirty-fifth thousand is a well illustrated volume of 176 pages, bound in red Athol leather and designed to answer in an authoritative manner questions as to how to do the every day work of the average machine shop. The different classes of work are taken up separately, the most common errors pointed out and the correct practice indicated. Much attention is given to the proper use and care of tools, the reading of micrometers and verniers, bench work, lathes and lathe tools, grinding, belts, geers, etc. The book is essentially for the apprentice rather than the expert machinist though the latter will find much of interest and value, and is intended to provide the answers to the many questions usually asked of the foreman or superintendent. Distribution is being made exclusively through the dealers handling the Star-



"There's only one way under the sun for us to do this job right—that's with a Dumore Grinder."

AN appreciation of its construction, plus a knowledge of its past performance, have created this unlimited confidence in the DUMORE Grinder.

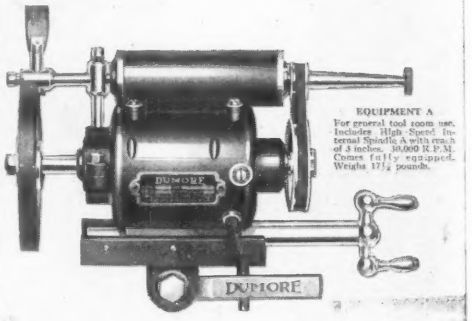
The reputation any product enjoys is based upon that product's record for usefulness and efficiency. When you sell the universally known and proved DUMORE products, you insure service and satisfaction for your customers.

The time is ripe for a special drive on time and labor saving machine tools. Machinery that has been operating day and night for the winning of the war must now be repaired. And the re-entry of regular commercial lines upon the market means need of additional equipment. Prepare *now* for this trade. Hook up with our extensive advertising campaign and get your share of DUMORE business from the industries of peace.

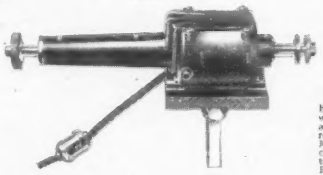
Write today for our attractive proposition to distributors.

WISCONSIN ELECTRIC CO.

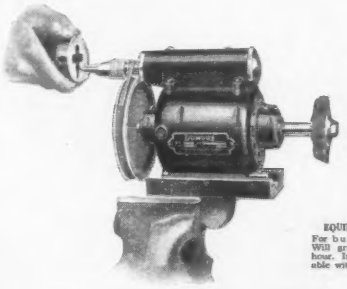
3908—16th St. Racine, Wis.



EQUIPMENT A
For general tool room use. Includes High-Speed Internal Spindle A with max. of 3 inches. 10,000 R.P.M. Comes fully equipped. Weighs 17½ pounds.



EQUIPMENT B
For deep internal work. Extension arm has 10-inch reach. 10,000 R.P.M. Arm interchangeable with internal spindle on Equipment A.



EQUIPMENT C
For button dies. Will grind 20 an hour. Interchangeable with A and B.

DUMORE HIGH SPEED GRINDERS

rett line of tools, the price being 50 cents per copy. The briefest examination of the volume will convince the ambitious apprentice or machinist of its value in his everyday work.

Combustion Engineering Corporation, New York City, has issued a stoker bulletin covering automatic stokers for all kinds of industrial and heat treatment furnaces. Over twenty years experience has been had by the company in solving combustion problems in mills of all kinds.

The Risdon Tool & Machine Co., Naugatuck, Conn., is out with a 20-page illustrated catalog, covering its line of metal stampings.

National Marine Lamp Co., New York, presents catalog No. 10, 94 pages, covering marine lamps and various specialties for oil and electric use.

Coburn Trolley Track Manufacturing Co., Holyoke, Mass., is sending out catalog No. 50, 56 pages, printed in two colors on handsome coated stock, profusely illustrated. The Coburn overhead carrying system is for both round trough and I-beam.

Clark Equipment Co., Buchanan, Mich., is sending out catalog No. 16, a pocket size book of 94 pages, covering its line of high speed twist drills, reamers, countersinks, flue cutters, lathe tools and internal gear drive axles.

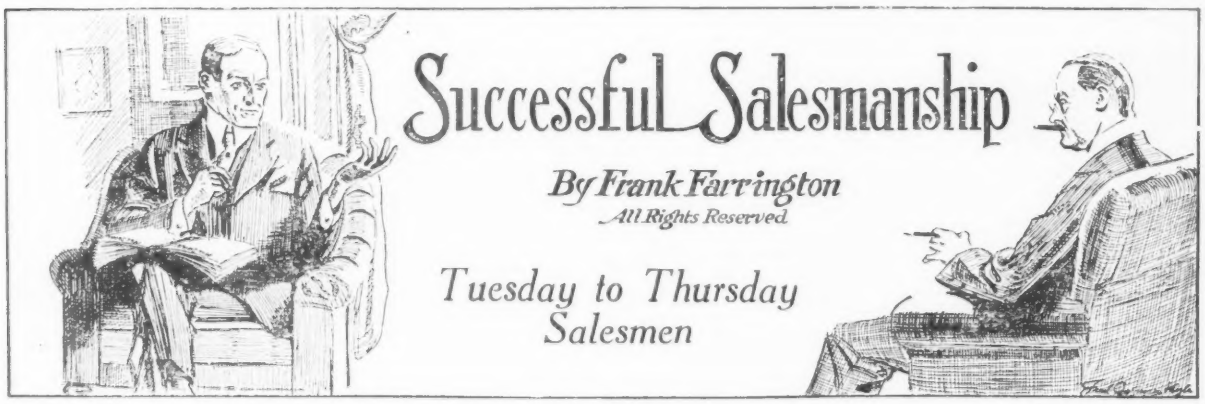
Hill Pump Co., Anderson, Ind., successors to the Hill-Tripp Pump Co., and the Hill Machine Co., is out with a book, descriptive of its line of centrifugal pumps.

Verona Tool Works, Verona, Pa., is distributing a handsomely illustrated catalog of 63 pages, covering its complete line of track tools and nut locks.

Webster-Perks Tool Co., Springfield, Ohio, is out with a descriptive catalog covering its line of pointing, thread-cutting and special tapping machines.

Geo. W. Diener Manufacturing Co., Chicago, in catalog No. 16 covers its line of appliances for fire prevention and fire protection.

Thatcher Furnace Co., New York, presents a line of pocket size catalogs covering furnaces, ranges, boilers and radiation.



There is one type of salesman commonly called the "T. T." salesman and that "T. T.," as you probably know, stands for "Tuesday to Thursday," and it means the kind of salesman who thinks it is enough to begin his week's work on Tuesday morning, and finish it on Thursday night.

It is bad enough for a traveling salesman to get the idea that he is doing well to get into the harness late on Monday, and that it is permissible to get out of it Friday night for a quick run home on Saturday so as to have the week-end vacation.

If you are going to be a week-ender, you belong in the society set, not in the business push. Pleasant as it may be to spend week-ends with the family or with friends, a little too much of that means a little less business, and you know that a little less business may mean a good deal less business. That is to say, one order missed may mean a whole lot of business missed. You may miss a few orders and those few large ones.

One class of salesmen who join the "T. T." club is made up of men who do a very fair amount of business in the few days left, and they reason that as long as they are able to sell as much stuff in three days as some of the rest sell in six, they ought not to be called upon to put in any more time. They say "Enough is enough," and let it go at that. The trouble with those men is that they have no ambition. They are satisfied to do just what they must do to get by.

If they can earn enough salary to satisfy them while selling on a commission basis and working practically three days a week, they think the house has no reason to complain if they do no more. But to satisfy the salesman is not all of successful salesmanship. The house has a right to demand satisfaction too, and usually it does in the long run. If you are pre-empting a certain territory and covering it once in two months and selling enough to earn a living, that is not sufficient. The house wants you to be covering that territory as often as you can cover it successfully. The house has a right to expect you to do your best at working your territory intensively instead of doing merely enough to get by.

It is easy to see how a week's work can be shortened up a day by forgetting to call on half a dozen prospects who have never bought anything from you, or whom you regard as negligible factors in the field, but just as long as you restrict your work to the developed trade, to the customers you know you can count on for orders, you are not going to increase the business properly.

For example, take a list of a hundred customers of

White Trucks

COMPARISONS PROVE ECONOMY OF TWENTY WHITE TRUCKS

TWO years ago, the W. Bingham Company of Cleveland replaced its horse-drawn equipment with 17 White Trucks. These trucks had been in service only six months when fire destroyed the company's garage and seriously damaged the whole fleet. After several months' experience with hired trucks of various makes, the company decided to replace its original fleet, and in May, 1918, 17 new Whites were purchased. Three more have since been added, making a total of 20 Whites in service today.

The fleet consists of twelve 5-ton, seven 1½-2-ton, and one ¾-ton trucks. Nine of the heavy duty trucks are used for hauling from docks and depots to the company's warehouses, and three are in delivery service to outlying districts. The 1½-2-ton trucks make daily retail deliveries and the ¾-ton is used for special work.

The Bingham Company learned by comparison that White Trucks are a most profitable investment. White dependability has enabled this large hardware house to effect marked economies in its transportation department and to improve its customer service.

THE WHITE COMPANY
CLEVELAND

Largest Manufacturers of Commercial Motor Vehicles in America

When writing to Advertisers please mention MILL SUPPLIES.

your house and lay it aside for six months or for a year, then study it and check off the names of those who are no longer customers. You will have your eyes opened. Some have died, failed, gone out of the trade, or in one way and another been lost to the house. They are no longer customers, and your list of a hundred has shrunk to a list of sixty or eighty. You can see what is going to happen to you and to the trade of your house if you are satisfied to keep visiting the same buyers trip after trip, developing no new business. You may be able to visit that hundred customers while cutting your weeks' work to three days or three days and a half in the week, but the result will be the gradual elimination of the business.

Another class of the "T. T." salesmen comprises those who seem to think that anything they can get away with is theirs. If they can presumably fool the sales manager into thinking they are working a full week while, as a matter of fact, they are working half a week, they think it is all right. They soldier on the job just the same as the laborer who leans on his hoe all the time the boss isn't watching him. This type of salesman is not honest with his employer or with himself. He is little less than a grafter, and you can be sure he will end by going where all grafters go, to the dump. All the employers worth working for are scrapping the grafter kind of salesman and putting regular fellows in their places.

The "T. T." salesman always bolsters up his time-cutting position by arguments tending to prove that is justified in working that way. He cannot offer arguments that are sound, however. They must be intended to show that he is doing as good work in three days as he could in six, or that he is doing enough to earn his pay in three days.

Suppose some other salesman does cut off a part of his week's work without any apparent loss. Suppose other salesmen do make fun of you for insisting upon working a full week. Your business is to do your duty, not to try to figure some way to make another man's deficiencies excuse the same thing on your own part. It is perfectly apparent that any live salesman can sell more in six days than he could in three or four or five. If you have an idea that there is nothing doing in business on Saturday, you may be right as far as your own business is concerned. It may be that you are not getting any business on Saturday, but you may be sure it is your fault, not because there is no business going on Saturdays. Men may take Saturday half holidays. They frequently do so. There may be men you cannot see on Saturday afternoon, but there are men you can see Saturday mornings and it requires the use of discretion to know when to give up a Saturday afternoon and when to go at it and work harder to get the business because it takes more work to get it.

If business is harder to get, is that a reason for not trying to get it, or is it a reason for trying harder to get it? There is no doubt as to the correct answer. The man who only works hard enough to escape censure, or to get by with his pay check, is doomed for the discard.

Men who make good in most lines of business have to work six days a week. Men who make good to a very great extent do not hesitate to work six long days without looking around every little while to see how they can cut out part of the work without getting caught at it, or how they can cut down a little the amount of work they are doing without cutting down the remuneration correspondingly.

Traveling salesmen are paid higher wages than salesmen who remain at home. This is to some degree in consideration of the fact that the former are compelled to relinquish a part of the agreeable phase of life, the home side of it. So you are paid for not being able to spend as much time at home as you want to spend, and this means that you are to be expected to pass up a week-end at home when the business will appreciably profit by the sticking to the job.

A salesman is going to make good just about in proportion as he is anxious to make good. If you are not very anxious to get farther up the ladder, you will not work hard enough to climb. You will be satisfied to stick around the half way mark.

If you are really anxious for a high mark, then you will think more about that than about what it may cost you in the way of effort or personal sacrifice to get it.

The men who want to get ahead are not found sitting in the smoking room of the hotel on Thursday figuring train service and visits to be made and trying to find a way to get home Friday night instead of Saturday night.

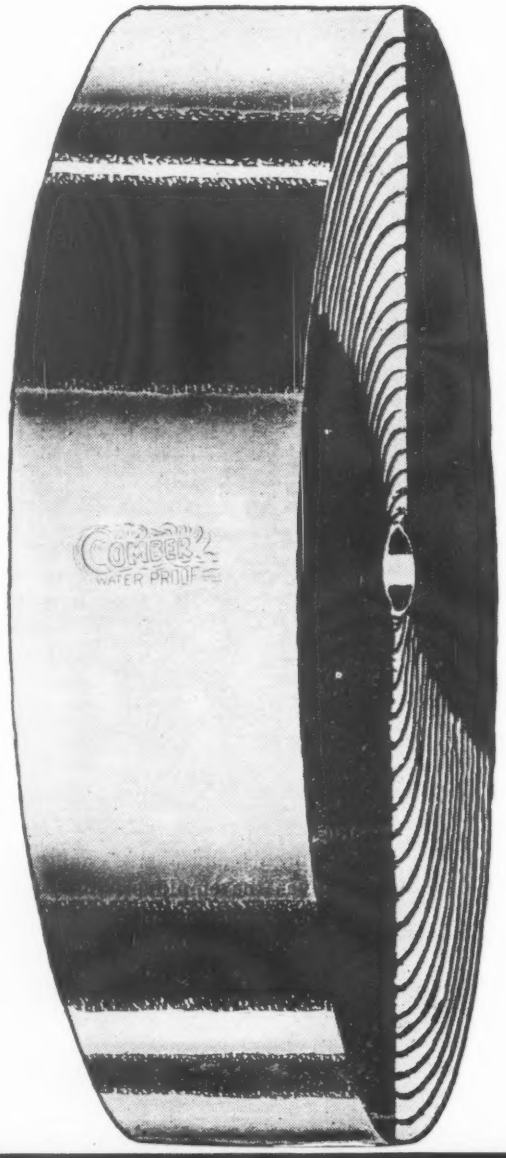
"T. T." salesmanship does not stop with cutting down the week's work to a Tuesday to Thursday basis. The salesman who is inclined to work on that schedule will not stop with that. He will keep cutting. He will cut each day's work just as he cuts each week's work. He has developed into a cutter, a salesman who is constantly cutting into the value or quantity of the time he gives to his employer.

I cannot see why it is any more fair for a salesman to cut the quantity of time he gives for his salary than for the employer to make unannounced cuts in the money paid for services. For the salesman, time and labor are the stock in trade. They are what he is offering in return for his pay. The employer gives him money. He gives the employer time and effort. There is no justice in cutting one or the other.

The only way to avoid a tendency to cut toward the "T. T." class, is to keep looking every week for chances to do more, to extend the week's work farther, to make its returns greater.

Just as long as you are trying to do all you can without regard to whether you are doing more or less than you are paid for doing, you will do more and make more sales and get faster and farther than any man who allows himself to drop into the "T. T." habit of business life.

Comber
LEATHER BELTING



THERE are a number of reasons why the better class of supply houses can sell Comber Leather Belting to advantage, but the one that overtops all others is that it is honestly made and never disappoints its purchaser.

Our twenty-four years of experience in leather belt making has brought Comber Belting to the highest point of perfection.

Every roll is sold under a guarantee that insures satisfaction to the user and thoroughly protects the dealer.

Write for samples and discounts to dealers. Belting users supplied through nearest dealer.

GEORGE RAHMANN & CO.
Manufacturers of Leather Belting
31 Spruce St. New York

All Comber Belting is Waterproof

Business Conference for Industrial Peace

Inter-Racial Council Formed to "Sell" America to Men of Foreign Birth—Will Protect Them, Teach Them American Ideals and Speech

It is estimated that a million foreign born men will leave America as soon as the bars are let down. Why do they want to leave this country?

It is claimed that that the development of new republics in Europe has unsettled the belief that America is the "land of promise," and that millions of immigrants feel renewed interest in their former homes, and indifference toward this country. Is this true?

It has been stated that the savings of the foreign born go back to Europe in a steady stream, and that little is done to check this drain upon our resources.

To what extent is this correct? What effect will all this have upon American industry? And what are we going to do about it?

Questions such as these are of vital importance to the leaders of American commerce, industry and business. They are of interest to every American, but to the employer of labor, and the financial backers of industry they are of supreme importance.

It was in order to study and act upon the facts about the foreign born in America that the Inter-Racial Council was formed recently in New York, with headquarters at 120 Broadway. The assemblage was typical of America, for it included men of distinction in finance, industry and commerce; men who lead organized labor and others eminent in science, education or statesmanship, while the foreign born living in the United States had spokesmen of their own race to voice their views and express their aspirations. In this period of the world's progress it goes without saying that women as well as men were given places of responsibility in the conference.

If this country is to pass through a sane reconstruction period, without violence, anarchy or civil strife, it will be necessary to get facts like the following into our consciousness, and then to act upon them with intelligence and justice. In America we have 33,000,000 foreign born or of foreign parentage. We have thirty-eight races, speaking as many languages. Many of them are hostile to each other and indifferent to America. When the war began, it was discovered that three million persons here did not speak our language, and six million were without American contacts, or quite out of touch with the land they live in. There are 1,146 foreign language papers, 300 racial organizations of national scope, and local organizations numbering 23,000. We have foreign colonies in our cities and industrial towns and a general policy of indifference or worse toward the average foreign laborer, leaving him to the mercy of slum landlords, labor exploiters and swindlers of all sorts. Such are the facts.

That there should have arisen from the foreign born a splendid response to patriotic appeal during the war, shows how promising is this material for the building of our nation, which we have ignored in the past. But in the new period that we are entering, we must harmonize all these elements, if our nation is to hold together.

Whether we enter a League of Nations or not, our problems are henceforth inter-racial, and it is time for the business man to enlarge his horizon accordingly. The Inter-Racial Council is the beginning of this new movement.

Its program is clear cut and practical: First, the immigrant is to have every inducement to acquire the English language and learn what America stands for; its ideals, its form of government, its customs, its history and literature. Only by such elementary education in Americanism can the foreign born become one of us.

Second, the immigrant is to receive the same fair treatment from employers as is accorded the native born worker able to protect himself. No exploitation of immigrant labor, but friendly co-operation must be the future course, and the foreign born must have this policy made evident both by words and deeds. The suppression of racial customs or language is not contemplated, for the foreigner brings us much that is desirable in the culture of the Old World.

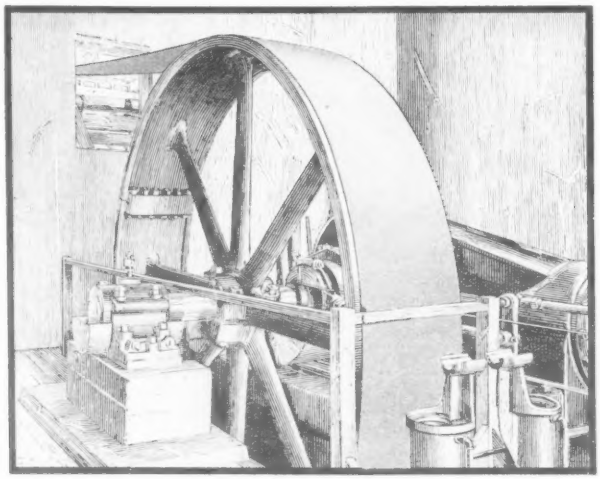
Third, the promotion of harmonious relations between the various racial groups in America, so that the foreign groups here may establish friendly contacts with each other as well as with native Americans.

What this means on a national scale can be understood by the application of this principle to industry. In a shop employing about 500 workers it is the policy of the proprietor to place his operatives in such a way that there shall be no cliques or sets based on race. Italians, Jews, Poles and Russians, are scattered among native Americans, Irish and French. Only English is spoken during working hours, and courteous English at that. The result is an unusually harmonious shop, with no hostile groups trying to stir up trouble with the others.

That should be the condition in the United States today, instead of the present discord of racial groups and foreign colonies, which are a fertile field for the growth of theories opposed to American democracy.

It is proposed that the United States government shall take a hand in this work, under direction of the able Secretary of the Interior, Franklin K. Lane. In a bill presented to congress this session, the education of native illiterates, of persons unable to understand

GRATON AND KNIGHT



GRATON AND KNIGHT

NATURE'S CONTRIBUTION TO POWER

30-inch Neptune Double Belt, 91 feet long, driving mill of J. C. Halsems Mfg Co., Jacksonville, Fla. This belt has been in operation five and one-half years, and is in as good condition as when first installed. It has given satisfactory service at an overhead charge of $2.17 per week, or a cost of five mills per horsepower per week.

It's the right material in the right place. Nature provided that material, worn originally on the back of a steer. A steer hide is *naturally* tough, strong, pliable, elastic. All of those characteristic virtues are retained to the right degree in Graton & Knight Standardized Tanning. That tanning is done to meet fixed requirements.

Leather stands hard usage. It has a bull-dog frictional grip. It keeps on taking the punishment of main drives and the side-slapping of shifters—and then comes back for *more*. Good belting must have tractable pliability. It must be firm. It must stretch and come back when required. It must be easy to splice and repair. Nothing beats leather for these characteristics. No belting beats Graton & Knight Standardized Series Leather Belts.

Every Graton & Knight Brand isn't recommended for *every drive*. The work to be done determines the belt to be used—that is the G. & K. Standardization idea. Power transmission requirements are confined to a few classes. There's a Standardized Belt for every class. The Neptune Double referred to above is one of them. It's the Standardized Belt for use wherever dampness or water is present or where belting is subjected to exposure to rain, snow and other unfavorable climatic conditions; and for excessive loads.

Many of the best belted plants ask us to specify the belting for every *pulley drive*. Try the plan yourself. Then, when buying, call for "Graton & Knight—Brand or equal." This won't commit you to buying our belts. It will put your buying on the one basic consideration—the work to be done.

Write for information about Standardization as applied to Belting

THE GRATON & KNIGHT MFG. COMPANY, Worcester, Massachusetts, U. S. A.

Oak Leather Tanners, Makers of Leather Belting, Lace Leather, Leather Packings an dSpecialties

BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

GRATON & KNIGHT Standardized Series LEATHER BELTING

Tanned by Us for Belting Use

Do you know that we have a thoroughly organized engineering department devoted to the interests of all belt users? We have—and it is one of the best in equipment and resources, in the country. You are invited to send us your problems for solution. The only fee involved is your good will.

the English language and of other resident persons of foreign birth is proposed, and an annual appropriation of twelve and a half million dollars is asked for, to carry on this important work.

The motive of this bill is expressed in Secretary Lane's recent address in New York:

"Congress will be asked to help and all the states will be asked to co-operate to kill illiteracy in the United States, whether it is among the children or among the grown-ups, and I want you to help.

"We want to interpret America in terms of fairness, of fair play, of the square deal. We want to interpret America in healthier babies that have enough milk to drink. We want to interpret America in boys and girls that can read and in men and women that can read, in housing conditions and wages, and hours that will give an opportunity to a man to know his family and live and support them like a man without apology."

This project has received the hearty endorsement of the Inter-Racial Council.

Promise of the results that may be expected from this council is found in the distinction of the men and women who constitute it, or are interested in its program. Among those present at the first gathering were the following:

Charles Evans Hughes, Cleveland H. Dodge, Otto H. Kahn, James M. Beck, Colgate Hoyt, William Salamon, Oscar S. Straus, H. J. Heinz, Pittsburgh; Joseph Appel, of John Wanamaker Company; William H. Crocker, Herman A. Metz, Ludwig Nissen, Gen. Coleman duPont, who was chosen chairman of the Inter-Racial Council; Felix M. Warburg, of Kuhn Loeb & Company, and scores of others equally well known.

Equally important was the labor representation which consisted of Dominick d'Alesandro, president Hod Carriers and Builders Union, Quincy, Mass.; John Golden, president Union Textile Workers Association; Joseph Parks, Massachusetts Industrial Board, Fall River, Mass.; Arthur E. Holder, of the Vocational Educational Board, Washington, D. C.

Metal Markets in Reconstruction Days

Future Condition of Markets Depends Upon Production Costs—Steel Sales Less Than Fifty Per cent of Capacity—How New Prices Are Regarded

EDWIN IRVINE HAINES

The term "reconstruction" has been eliminated from the business vocabulary of the French, and the word "reconstitution" substituted in its place. They say that the latter term more aptly represents the work that is before them. In a less degree the same also holds true to conditions in the United States.

"Reconstruction" means the restoration of conditions as they existed before the war; of throwing out conditions created by the war, and placing those of peace in their stead. Reconstruction implies rearing a new structure that shall take the place of the old. Much of the old material may be used, but some new material is required, and the style of architecture may be entirely different.

This reconstruction, or reconstitution, process is necessarily a long one, not merely because there is so much to be done, but also because it is necessary for sentiment to develop as to what the people want. The selection can only be made after a general choice has been registered. It is impossible at this juncture to know just what the American public wants, so reconstitution must proceed along the line of "cut and try." There must be more or less of uncertainty at every step.

Reconstitution is taking place in the metal markets today, just as it is in every other line of industry. The work of readjustment is slow and no one can foretell the future with any degree of accuracy. Every one in the metal trades, just now, is speculating as to when the cost of production is going to come down, and how much. It may be helpful in this connection to remember what occurred in the steel trade as the cost went up.

The cost of producing steel at the close of the war represented a structure made up of various component parts. It is now a question as to what parts can be removed, and how far the dissembling process can go. During the war, manufacturing costs mounted to unprecedented levels, not only by reason of successive wage advances, increases in the cost of raw materials and of freight, and other items, but also on account of decreased labor efficiency, poor service, and wastes in many respects. By reason of the pressure for steel as a war necessity, methods were employed that were not economical. It was necessary to produce tonnage irrespective of costs because we were at war.

Now all the above unnecessary influences that increased costs during the war period will naturally be eliminated. Costs will decline quite independent of decreases in the prices of raw material or the wage scale. The cost structure being made up of those items that forced their way into it, due to the war, must disintegrate now that the primary cause—the war itself—has been removed. Either this logic will hold true, or manufacturers have misrepresented conditions as they really were, and have been making exhorbitant profits which can only be remedied by forceful and needed legislation.

Consumers are also desirous of finding out as soon as possible what settling prices will prevail for metal products when the real activity, so confidently expected, actually commences. Those prevailing during

Ask your superintendent to send for this booklet-- --it will help him reduce your belting costs.

"THE STORY OF SCHIEREN BELTINGS," a 32-page booklet just published, is written to the man who asks: "Why are we now paying more for our belting" as well as to the shop foreman who works overtime Sundays to keep the old main-drive belt in the running.

It is not an ordinary advertising booklet in any sense. It goes back to the prairies to find the beginning of leather belting, and by concise description and clear illustration, step by step, follows the material through to a finished belt ready to transmit power.

That is why we feel that executives will be glad to have a copy, for they, if any, are interested in seeing the belting they buy transmit power more economically.

"DUXBAK" Waterproof Leather Belting, but one of the Schieren Brands, is today the most widely used brand of leather belting in the world. It is used because it does more work better. You can no more afford to throw away the extra power that DUXBAK gives than can the ones who now use DUXBAK—therefore, send today for our booklet and find out why one kind of leather belting CAN BE worth more than another.

The coupon below is intended for your convenience—a letter in addition is not necessary.

DUXBAK BELTING
TRADE MARK
Reg. U. S. Pat. Off.

Chas. A. Schieren Company
ESTABLISHED 1868

Tanners
Belt Manufacturers

Main Office and Factory:
42 Ferry Street, New York, U. S. A.
Oak Leather Tanneries, Bristol, Tenn.
Branches in all large cities

CHAS. A. SCHIEREN COMPANY,
42 Ferry Street, New York, N. Y., U. S. A.

Please put my name down for one of the first copies of your booklet, "The Story of Schieren Belting."
I will gladly acknowledge its receipt and tell you what I think of it.

Name .....

Title or Position .....

Company .....

Address .....

..... Dated.....

P,43

the present light demand, it is believed, will not continue for any great length of time. They will be held as long as possible, of course, so that occasional slight declines will not be particularly significant. There is an idea prevalent that there may be a general decline around the first of April next, but this will not mean the arrival of a final price, for conditions are not ripe for the eventual decision. The market cannot develop a stable level for pig iron, unfinished steel, and finished steel, for example, until the country has completed its readjustment period. Prices are not subject merely to the dictation of either buyers or sellers, but hinge upon a great many considerations, and conditions will simply have to work out for themselves.

We are, in fact, facing a very delicate situation. The great bulk of the business that had been transacted during the past year was war business; materials made and sold either to the United States government and its allies, or contractors supplying materials chiefly to be used for the furthering of the country's interests to win the war. The sudden cessation of hostilities has made it necessary to call a halt in the vast program of manufacturing for war purposes only. This had the effect of stopping contracts and throwing large quantities of stock upon the hands of the manufacturers who have been obliged to curtail their output to a vast extent and reduce their working staffs in proportion. All over the world, therefore, are large stocks of material in the hands of certain countries and concerns that are, for the moment, undigested, and which must hang over the world as a sort of pall of uncertainty, which will exist until they can be absorbed by the world's work.

The opinion appears quite general in the metal trades that it is natural to expect a lower level of prices on all materials. This feeling seems to have so great a hold upon the country as to retard the majority of people from embarking on large expenditures of money.

There is also a measure of misunderstanding as to the present range of prices and the territories they cover. Thus mills asking prices on iron bars are, Chicago, 2.90 Pittsburgh; Pittsburgh mills, 3.50 Pittsburgh; and Eastern mills, 3.50 Pittsburgh. This makes the price delivered Philadelphia 3.745 in the case of both Eastern Pennsylvania and Pittsburgh mills, while the Chicago mills' price for delivery to Chicago is 3.17.

The question that is puzzling consumers just now is how far afield the Western mills will sell. Obviously they could sell to Chicago and Western points at 2.90, Pittsburgh, but they might not care to ship far against their freights. Even if they figured 2.90 mill, as a basis for shipping East, they would interfere with the market of the more Eastern mills. Some of the Western mills have interpreted the Pittsburgh base freely, and are willing to ship far East on that basis, while others are not. Some sales have been actually made to Eastern Pennsylvania points as well as Boston at 2.90 plus the freight from Pittsburgh to point of delivery. This makes nearly as low a realized price at mill as if the sale was made for Pittsburgh delivery at 2.90. In the case of Boston, for example, the through rate is about three cents less than the sum of the rates, and sales have been made by Western mills at 3.20 delivered, Boston. The interesting question is to what effect the procedure will have upon the attitude of Eastern Pennsylvania mills, which have been regarding their market price at 3.50, Pittsburgh, plus freight, as this makes their quotation to Boston 3.80 delivered, or $12 a ton above the price which Western mills have sold to that point. At present, however, the Pittsburgh and Eastern Pennsylvania mills are more interested in filling their old contracts than in making new sales.

Aside from a continued buying of bars, sheets, spring steel, and other specialities by manufacturers of automobiles, tractors, and farm implements the current orders for steel products are confined to relatively small amounts to meet mandatory requirements.

The chief plate tonnage being rolled at present is for the Emergency Fleet Corporation. Many mills report that this is the heaviest end of their plate business.

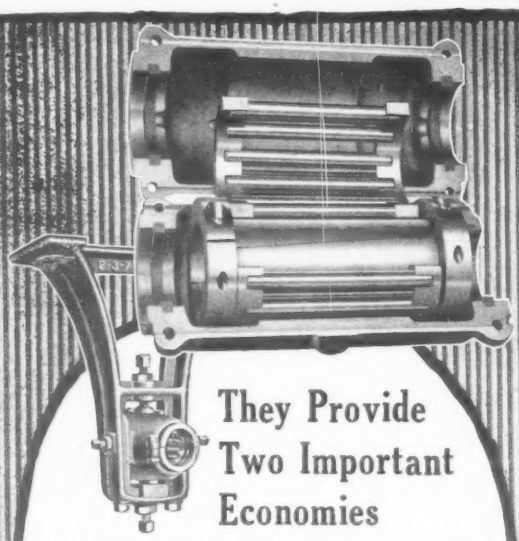
Reports from the steel companies indicate that they do not expect any great increase in the volume of business in the near future. Orders now being received are at the rate of about fifty percent of capacity, but stocks are still light in the warehouses and the mills still continue to operate a certain percentage to replenish stocks of standard materials.

The prospects for railroad work are very discouraging. According to reports from Washington the Pennsylvania railroad has been ordered to stop all construction work because of inadequate revenues. This was the only railroad of importance that has been placing orders for bridges and other structural work.

Bookings in shafting and screw stock are very light compared with the normal demand, but producers regard business as being fair under the circumstances. No exact estimates are made as to the rate at which shafting manufacturers are operating, but fifty or guess. Current bookings are less than sufficient to sixty percent of capacity would probably be a fair support such a rate, but there is considerable backlog business being filled, and this will last for some time.

The regular prices for soft steel in unfinished form, $43.50 for billets, $47.00 for sheet bars and small billets, $46.00 for slabs, and $57.00 for rods are existing only for the purpose of settling prices on contract deliveries, as there is little new buying of consequence.

The United States government is evidently waiting a market more favorable than the present one before it offers steel in any quantity. There is, of course, a large quantity in various forms to be disposed of, arising from the cancellation of contracts. Efforts made by steel companies to draw in specifications against outstanding contracts for rolled steel products,



They Provide Two Important Economies

With "Sells" Roller Bearings on your transmission lines, you have a choice of two major economies:

You can operate your plant, doing the same amount of work, at a saving in power of approximately 10%.

Or, you can increase the capacity of your plant proportionally without adding to boiler room expense.

Old Reliable "Sells" Roller Bearings

These economies can be effected because "Sells" Roller Bearings, when replacing babbitt bearings, cut the friction load practically in half, a saving sufficient to pay the cost of "Sells" Roller Bearings in 12 to 18 months.

The split construction of "Sells" Roller Bearings makes them as easy to attach as split pulleys. They will fit any standard hanger and can be installed overnight.

There is no end-thrust, rollers do not get out of alignment, nor can there be any friction between them.

Fully described in catalog and other matter, which will be sent to you upon request. Write today.

John D. Sells
Manager.

Royersford Foundry & Machine Co.
43 N. 5th Street, Philadelphia

Other Royersford Economies

"Sells" Roller Bearings for mine cars and wagons, Shaft Hangers, Collars and Couplings, Rollerine, the Ball and Roller Bearing Lubricant, Combination Oil and Grease Gun, Babbitted Ring Oiling Bearings, Punches and Dies, Punching and Shearing Machines, Sensitive Drill Presses, Drill Presses and Foot Presses, Grinding and Polishing Machines, Tumbling Barrels, etc.

Are You Satisfied With Your Belting Accounts?

Why Don't YOU Put in a Stock of "V-B" BELTING?

¶ "V-B" BELTING will replace leather belting, showing a saving to the consumer in first cost alone of from 30% to 70%, giving service equal to leather belting. ¶ "V-B" BELTING will, also, show YOU a desirable profit.

We are large manufacturers, selling our goods through distributing agents, and we want representation in markets where we are not already established.

WRITE

Victor Balata & Textile Belting Co.

Manufacturers of "V-B" (Victor Balata) Belt, "AMPERE" and "SPECIAL" Grade Canvas Stitched Belting

Main Sales Office: 38 Murray Street, New York, N. Y.

BOSTON 87 High St. | CINCINNATI 212 E. 2nd St. | CHICAGO 167 N. Market St. | FACTORY Easton, Pa.

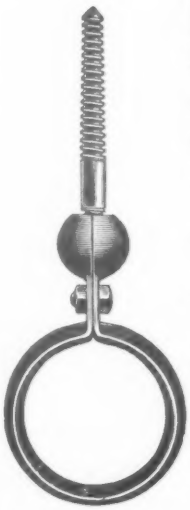
Our Specialties are sold to Jobbers only

Hanna "Ball Joint" Pipe Hanger

is the

Simplest and Strongest

hanger ever made.



¶Note the ball and socket joint.

¶Hanger can swing in any direction.

¶Not necessary to remove hanger to raise or lower pipe.

Write for "Our Silent Salesman"

The Penn Engineering Co.
Philadelphia, Pa.

however, have been unusually successful, as some of the independent mills have increased their activities. According to reports the United States Steel Corporation is now producing ingots in excess of ninety-five percent of capacity, and some of the independent mills, whose finishing plants were running only fifty percent have been able to increase to eighty percent of capacity.

Preservation of Hot Water Supply Pipe

Test of Deoxidation Principle for the Prevention of Corrosion in Pipe —Results at Irene Kaufmann Settlement Installation Satisfactory

F. N. SPELLER

Paper Read Before The American Society of Heating Engineers, January, 1919.

During the past year, no new work was undertaken on the application of the deoxidation principle for the prevention of corrosion in pipe, due to war time activities which demanded all our time. However, the new test pipe put into the Irene Kaufman Settlement installation, Pittsburgh, two years ago, using deoxidized water, have been re-examined; the following report of the Pittsburgh Testing Laboratory describes the results to date:

The pipes included in this test were originally two 29-inch lengths each of

2-inch, uncoated black steel pipe.
2-inch, wrought iron uncoated black pipe.

The installation was made November 22, 1916, on which date it was first put into service.

On December 24, 1917, the pipe line was re-opened, and the wrought iron pipe and steel pipe found to be practically uncorroded after more than one year of service. Their inner surfaces were covered with a soft, black slime. Oxygen removal by the deoxidizer had at times been incomplete, because of the low temperature of the water. Nevertheless, corrosion had caused during this time, perforation of duplicate pipes in part of the same hot water system unprotected by the deoxidizer.

Samples of the zinc and brass which had been in the line for 42 days showed practically no corrosion, while similar samples in the unprotected part of the hot water line showed pitting of the zinc and solution of the zinc constituent of the brass, leaving metallic copper at the edges of the brass samples. The zinc and brass specimens were put back into the line, and riveted couples of steel and copper sheets, and of steel and brass sheets, were also placed in the line. Copper rivets were used.

On January 3, 1919, after two years and 42 days of service, the condition of the pipes in the deactivated hot water line was again observed, and found to be so good that it was decided to continue the test for at least another year.

The pipes showed the same soft black coating, and there was no evidence of pitting, even where the steel pipe was in contact with a brass union, a condition favorable to rapid corrosion by electrolytic action.

The specimens of zinc, brass, etc., already mentioned, were removed, and sent to the laboratory in order to determine their losses in weight and general condition. The relative losses of weight were very striking. The zinc plate had lost in the deactivated water, in about 12 months, only 1%, as compared with more than 10% in the untreated water in the same line.

The brass plates, during the same period, lost less than 0.1% in the deactivated water, as compared with more corroded away in the untreated water in the same line.

The steel in the riveted brass and steel couple lost about 16% in the deactivated water, but was entirely than 1% in the untreated portion of the water in the line.

In the case of the riveted steel and copper plates, the loss of weight of the steel in the deactivated water was 20%, while in the untreated water the steel was destroyed by corrosion before the end of the 12 months' period.

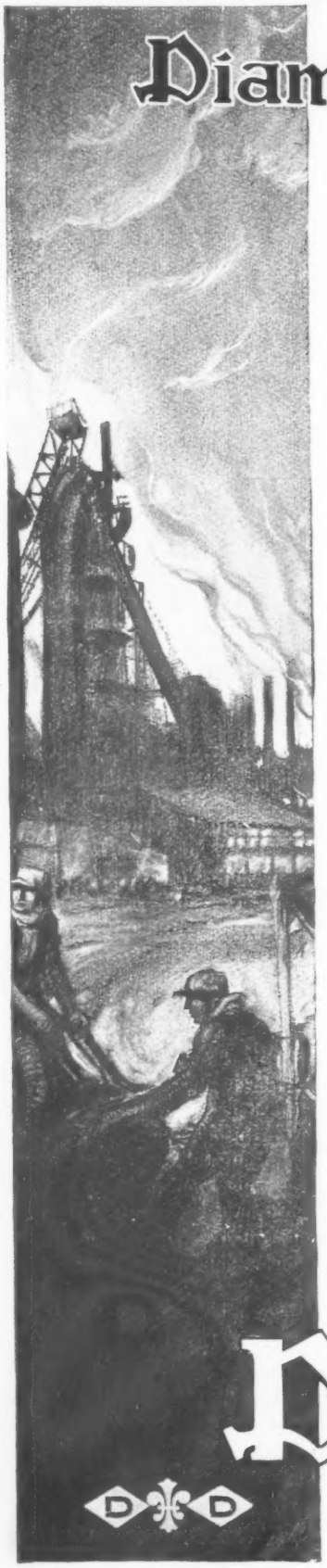
Removal of the oxygen by the Speller deoxidizer has been the means of hindering the corrosion of wrought iron and steel pipe exposed for over two years in a hot water line. In the meantime, specimens of the same iron and steel pipe have failed by pitting in less than a year in an unprotected part of the same hot water line.

No trouble has been expjerienced with either this or the plant installed in Boston described in our paper before the last annual meeting*. The plant at the Irene Kaufmann Settlement, Pittsburgh, has now been in use continuously for over three years and neither of these apparatus have been opened for renewal of the steel plates or filter material. After this period the analyses of the water shows the same percentage of oxygen removal as was found when these plants were installed.

An interesting piece of data was obtained at the inspection this month, from test plates of zinc and some pieces of steel riveted to copper and brass plates. These were all weighed and inserted into hot water lines carrying about the same volume of raw and deactivated water for about 14 months. The weights of these pieces before and after this test indicate a greatly reduced loss of weight for the zinc and brass plates in deoxidized water. The free oxygen in this water was reduced on the average to about 7 percent of the amount found in the raw water, so that with a larger plant and more perfect deoxidation, still better results might be expected. There has been considerable trouble with some brass pipe with ordinary hot water due to development of porosity and leaks which are first manifested by a white encrustation on the outside of the pipe. In galvanized pipe the zinc dissolves away rapidly and in this way protects the iron, but the protection is only good for two or three years where the waters are moderately soft. So it appears that the brass pipe will be protected in practice almost as much as galvanized pipe by the removal of free oxygen.

It is of practical interest to note that in the three years trial which this system has undergone that the oxygen removal has not been complete, yet there is no perceptible action of the deactivated water on unprotected iron, steel or brass pipe. A considerable amount of hydrogen has been found in this water between which and the free oxygen some proportionate ratio would seem to exist, which inhibits corrosion.

*Preservation of Hot Water Supply Pipe—Speller & Knowland, Transactions American Society of Heating & Ventilating Engineers, January, 1918.



Diamond's Greater Efficiency Has Come to Stay

OUT from the stress of war-time production emerges a Greater Diamond—

A Diamond *super-efficient*—with tremendously increased capacity—its quality standards yet higher than ever before.

Just as the aeroplane industry, under the whip and spur of stern necessity advanced twenty years in two, so has Diamond leaped ahead along the path of progress.

Production precedents in every industry have been shattered—new standards have been established.

Consider particularly our new Red Belt—a war-time development. This mighty worker has a *friction surface* of tremendously increased gripping power. The cutting down of power wastage due to this tighter grip is one of our big war achievements. Its body is stronger, too—immensely so—but combined with a sinewy flexibility that defies those sudden shocks and strains that so quickly prove the undoing of ordinary belts.

The belt, understand, is RED—a new RED Rubber—and its duck is a new and special weave, giving utmost durability. It will do a bigger day's work for you. It is destined to play a big part in this greater industrial era upon which we are now entering. Don't be satisfied with pre-war standards—*investigate Diamond Goods.*

The Diamond Rubber Company
(Incorporated)
Factories: Akron, Ohio

Diamond

Belts—Hose—Packing

When writing to Advertisers please mention MILL SUPPLIES.

General-News from the Field

PERSONALS

W. H. Luers, general manager and a director of the General Aluminum & Brass Co., Detroit, has resigned.

Oscar P. Berg has been appointed general manager of the Advance Brass Manufacturing Co., Muskegon, Mich.

Frank A. Ball, vice-president of the L. S. Starrett Co., Athol, Mass., has been elected president of the Athol board of trade.

William K. Swift, of Philadelphia, has become associated with the sales department of the Bound Brook Oilless Bearing Co., Bound Brook, N. J.

L. M. Baker, formerly sales manager of the United Motors Service, Inc., has been appointed special sales engineer of the Hyatt Roller Bearing Co., Detroit.

L. P. Prossen has been made vice-president of the Nilson-Miller Co., Hoboken, N. J., and will have charge of the gear-cutting, piston and piston ring departments.

Clarence S. Willard, foreman at the Graton & Knight Manufacturing Co., Worcester, Mass., has been promoted to manager of the St. Louis branch of the company.

K. K. Hoagg has been appointed engineer in the sales department of the Hyatt Roller Bearing Co., Detroit, Mich. Mr. Hoagg has been associated with the company since 1912.

H. H. White has been appointed Southern representative of the A. Wyckoff & Son Co., Elmira, N. Y., with headquarters at 1503 Fourth National Bank Building, Atlanta, Ga.

Edward W. Dodge, for many years connected with the Norton Co., Worcester, Mass., has been appointed general sales and works manager of the Star Corundum Wheel Co., Detroit, Mich.

W. E. Biggers, of Detroit, for four years advertising manager of the Hyatt Roller Bearing Co., has been appointed assistant to the president of the Owosso Manufacturing Co., Owosso, Mich.

Justin R. Weddell, formerly sales manager of Corday & Gross Co., Cleveland, Ohio, advertising agency, has been appointed advertising manager of the Firestone Tire & Rubber Co., Akron, Ohio.

Paul E. Ryan has resigned as assistant manager of the Cleveland-Osborn Manufacturing Co., Cleveland, and has become associated with the Aluminum Castings Co., Cleveland, as director of production.

Joseph W. Fall, formerly of Nashville, Tenn., has been elected vice-president and sales manager of the Thomas-Ogilvie Hardware Co., Shreveport, La., succeeding B. F. Kahl, who resigned to remove to St. Louis.

Linwood B. Cornell, manager of the Worcester branch of the Pierce, Butler & Pierce Manufacturing Corporation, of Syracuse, N. Y., has been transferred to Philadelphia. He is succeeded at Worcester, Mass., by Walter C. Moriarty, of New York.

Herbert W. Gledhill, formerly sales engineer of the Philadelphia office of the Shepard Electric Crane & Hoist Co., Montour Falls, N. Y., has been appointed district manager of that office. He will be assisted by Glen Rumsey and Leland Woodworth.

Richard T. Browne, Jr., has joined the sales force of the Youngstown Sheet & Tube Co., Youngstown, Ohio, at its Pittsburgh office. Percy O. Eisenbeis has been transferred from the sales office at Youngstown to the St. Louis district sales office at 1139 Olive street.

Theodore R. Hermanson has severed his connection with the Harrison, N. J., works of the Worthington Machinery Corporation, to accept the position of works manager of the Epping-Carpenter Pump Co., Pittsburgh, manufacturer of condensers and pumping machinery.

Charles W. Moon, director of personnel at the plant of the R. K. LeBond Machine Tool Co., Cincinnati, and one of the organizers of the Employment Managers' Association, Cincinnati, has been appointed director of personnel by the Timken Roller Bearing Co., Canton, Ohio.

Charles R. Emerson has recently been appointed sales manager of the Foster Engineering Co., Newark, N. J. Mr. Emerson was manager of the Boston branch of the Foster Engineering Co. for two years, and during the past six years has been manager of the Philadelphia office.

Samuel H. Moon, secretary and treasurer of the Standard Sanitary Manufacturing Co., Pittsburgh, Pa., has been elected first vice-president of the company, succeeding the late Francis J. Torrance, whose death occured last month. Mr. Moon will retain the office of secretary and treasurer.

J. G. Osgood, who recently resigned as manager of pneumatic tool sales for the Chicago Pneumatic Tool Co., Chicago, after twelve years service in the sales organization of the company, has been made general sales and service manager of the Keller Pneumatic Tool Co., Chicago.

The Sanibrass Corporation, organized for the manufacture of showers and bath fixtures, has opened a plant and offices at 17-27 Liberty street, Brooklyn, N. Y., and has appointed Leon Bloch as president. Mr. Bloch was formerly manager of the New York office of the Glauber Brass Manufacturing Co.

B. F. Geyer, general sales manager of the Wayne Oil Tank & Pump Co., Fort Wayne, Ind., has been promoted to be vice-president and general manager. E. J. Gallmeyer, formerly manager of the Memphis district for the company, has been appointed to succeed Mr. Geyer as general sales manager.

N. A. Booze, for several years secretary of the Machinist's Supply Co., Chicago, has joined the Federal Machinery Sales Co., 12 North Jefferson street, Chicago. Mr. Booze was one of the organizers of the Machinery Club of Chicago, served as its secretary, and is among those responsible for its successful start.

F. N. Wells, New Britain, Conn., was elected president of the Beaton & Corbin Manufacturing Co., Southington, Conn., at its recent annual meeting. Other officers elected were Howard Timbrell, vice-president; Albert R. Wells, secretary and treasurer; M. E. Jones, assistant secretary, and Charles E. Smith, auditor.

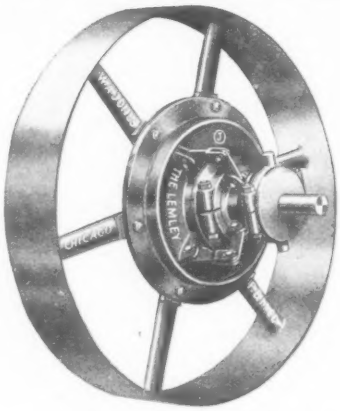
William Blake Patterson, president of the Patterson Tool & Supply Co., Dayton, Ohio, has been appointed special representative in Italy and Switzerland for the Monarch Machine Tool Co., Sidney, Ohio, manufacturer of lathes. Mr. Patterson will retain his position and interests in the corporation of which he is president.

Major Reuben Hill, formerly works manager of the Detroit Lubricator Co., Detroit, who organized that company's plant in Walkerville, Ont., for the manufacture of British ammunition, has just returned to Detroit from France, where he was on the staff of technical experts in the engineering division of the artillery ammunition.

Victor J. Mahler, for the past few years sales manager of The Central Brass Manufacturing Co., Cleveland, has resigned his position with that company and is now associated with The Empire Brass Manufacturing Co., in the position of vice-president. Mr. Mahler takes over the duties of the office formerly held by W. P. Deutsch, who recently passed away.

L. H. Thullen was elected president of the Grand Rapids Brass Co., Grand Rapids, Mich., at a recent meeting of the board of directors. J. Murray was made vice-president, and Carlton Austin, secretary and treasurer. Mr. Thullen is a

THE LEMLEY FRICTION CLUTCH



If you want the very best friction clutch on the market

BUY THE LEMLEY

It is positive in action, and trouble proof. It will eliminate your clutch troubles.

Our thousands of satisfied customers should be

SUFFICIENT INDORSEMENT

Our dealers' proposition is a very attractive one for you. Would you like to hear about it?

We Make a Complete Line of Mill Equipment

including cut and cast gears of all kinds, pulleys, hangers, elevators, conveyors and transmission machinery.

Our Specialized Factory Equipment Enables Us to Make 24-hour Delivery on Rush Orders

Write for Catalogues and Dealers' Terms

W. A. JONES FOUNDRY AND MACHINE COMPANY

4410 West Twelfth Street Established 1890 **Chicago, U. S. A.**

More Business
Greater Profits
Better Satisfied Customers

Three conditions that naturally follow when you get your Trade interested in

MOORE & WHITE FRICTION CLUTCHES

The words, "Moore & White Patent," on a Friction Clutch mean absolute satisfaction for the user, *and the trade knows it.*

ARE YOU TAKING ADVANTAGE OF THIS?
If not, let's get better acquainted.

The next time you have a call for a Friction Clutch, get a proposition from us. *It will pay you.*

Ask for free Catalog "C"

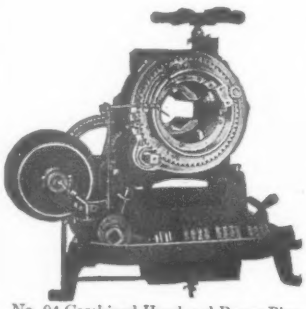
THE MOORE & WHITE CO.

2711-2741 N. 15th St. - Philadelphia, Pa., U.S.A.

"FORBES"

Pipe Cutting *and* Threading Machine

CUTS PERFECT THREADS



No. 94 Combined Hand and Power Pipe Machine, Range 2½ to 6 in. R.H.

This up-to-the-minute combination Hand and Power Pipe Machine is a wonderful producer. You get a perfect thread each time you operate it. So simple that unskilled helpers can operate it at a material saving for you. It is light, strong and durable. Can be moved from place to place on job or in the shop. Reasonable in first cost, too. It will cost you nothing to investigate.

Write for Catalog and full details as to operating cost, capacities, etc.

THE CURTIS & CURTIS COMPANY

120 Garden Street **BRIDGEPORT, CONN.**

member of the American Institute of Electrical Engineers, the Franklin Institute and the American Society of Mechanical Engineers.

Cephas Taylor, Jr., identified with the Chicago office of the A. M. Byers Co., of Pittsburgh, for the past few months, has been appointed district sales manager of the company in that territory, succeeding Frank Minninger. The Chicago branch is at present located at 401 McCormick Building, but after April 1 will be moved to more attractive quarters in the same building, Rooms 1520-21.

Edward R. Ladew Co., Glen Cove, N. Y., manufacturer of leather belting, announces the appointment of O. S. Horton as manager of its Southern branch, with headquarters at Charlotte, N. C., and territory covering all states south of West Virginia, Arkansas, Kentucky and Maryland. Walter Carr, formerly of the New York office, has been appointed assistant branch manager.

H. T. Carkeek has opened an office in Philadelphia, to handle exclusively the Clow gasteam radiators, manufactured by James B. Clow & Sons, Chicago. Mr. Carkeek has been associated with the Clow Company for over fourteen years, and for the past eight years has been manager of the advertising and publishing department. Previous to this connection he was associated with The J. L. Mott Iron Works.

Wilbur S. Wilding, formerly in charge of the New York office of the Roberts Filter Manufacturing Co., has been appointed manager of sales with headquarters at the company's main office at Darby, Pa. Thomas C. Cummins, who recently returned from Washington, where he had been in charge of the purchases of water purification plants for the War Department, succeeds Mr. Wilding as manager of the New York office.

Percy M. Brotherhood, vice-president of Manning, Maxwell & Moore, Inc., 119 West 40th street, New York City, and general manager of its machine tool department, sailed for Europe early in February to visit France, Belgium, England, Italy and Spain, to investigate general industrial conditions in an effort to determine what their requirements will be and what the possibilities are for the extension of American business.

Walter M. Spaulding, president of the Graton & Knight Manufacturing Co., Worcester, Mass., was tendered a luncheon at the Bancroft Hotel, Worcester, by the directors of the firm in recognition of a half century of service with the company. He entered the employ of the firm in 1869 as a bookkeeper. He was gradually promoted until he became vice-president, secretary and general manager. On the death of Joseph A. Knight in 1909, Mr. Spaulding became president and general manager, which office he now holds.

FACTORY ADDITIONS

Travis Glass Co., Glasgow, W. Va., will build a one-story addition, 100 x 200 feet.

Lebanon Iron & Steel Co., Duncannon, Pa., is building a warehouse, 100 x 180 feet.

The Hood Rubber Co., Watertown, Mass., is building a one-story extension to its plant.

The Christa-Batchelder Marble Co., Detroit, Mich., plans to build an addition to its plant.

Wheeling Steel & Iron Co., Benwood, W. Va., is building a one-story addition, 50 x 100 feet.

Krein Chain Co., Wapakoneta, Ohio, recently completed an addition to its plant, 45 x 140 feet.

The Manganese Steel Casting Co., Norfolk, Va., plans to build a two-story plant, 30 x 60 feet.

Detroit Heat Treating Co., Detroit, Mich., will build a one-story heat treating plant, 43 x 55 feet.

Wenatchee Iron Works, Wenatchee, Wash., contemplates the erection of a foundry, 50 x 120 feet.

Peerless Light Co., Chicago, is having extensive alterations made to its six-story plant, 100 x 200 feet.

United Iron Works & Machine Co., Haileybury, Ont., is erecting a foundry at a cost of $75,000.

J. A. Cody & Sons, Newmarket, Ont., is having plans prepared for the construction of a saw mill.

Buckeye Aluminum Co., Wooster, Ohio, has started work on the erection of an addition, 96 x 120 feet.

Griffin Car Wheel Co., Boston, Mass., plans to rebuild its plant at Chelsea, recently destroyed by fire.

Burke Electric Co., Erie, Pa., has started work on the construction of an extensive addition to its plant.

Empire Manufacturing Co., Binghamton, N. Y., has awarded contract for the erection of a plant, 60 x 160 feet.

Baltimore Buggy Top Co., Baltimore, Md., has awarded contract for the erection of a factory addition.

Thin Metals Co., Waterbury, Conn., has awarded contract for the erection of a one-story factory, 48 x 80 feet.

Remington Salt Co., Ithaca, N. Y., will rebuild its boiler house at its Cayuga Lake plant, to be 60 x 120 feet.

Standard Envelope Sealer Manufacturing Co., Everett, Mass., is building a two-story factory, 65 x 120 feet.

New York Shipbuilding Corporation, Philadelphia, has plans for the erection of an additional machine shop.

Imperial Oil Co., Toronto, Ont., plans to build an addition t its plant at St. John's, N. F. Estimated cost, $50,000.

The Hayssen Manufacturing Co., Sheboygan, Wis., plans to erect a two-story machine shop addition, 50 x 90 feet.

Star Rubber Co., Akron, Ohio, will build a two-story addition to its plant, 44 x 100 feet. Estimated cost, $35,000.

The Janke Shoe Manufacturing Co., Milwaukee, Wis., plans to build a three-story addition to its factory, 34 x 120 feet.

International Time Recording Co., Endicott, N. Y., is building a one-story boiler plant addition, at a cost of $40,000.

American Can Co., Honolulu, T. H., has taken out a permit for the extension of its plant at Iwilei, to cost about $145,000.

Magnus Brass Foundry Co., Milwaukee, Wis., is erecting a pattern storage building. C. H. Duback is general manager.

Plans have been completed by the National Steel Barrel Co., Cleveland, Ohio, for the erection of an addition, 110 x 121 feet.

Moyer & Pratt, Lyonsdale, N. Y., have awarded contract for improvements to its paper mill, to cost approximately $70,000.

Sexton Manufacturing Co., Fairfield, Ill., contemplates the erection of a two-story machine shop, 30 x 66 feet, to cost $30,000.

The Eagle Picher Lead Co., Baltimore, Md., has awarded contract for the erection of an extensive addition to its plant.

Plans have been prepared by the Acme Cone Co., Bridgeport, Conn., for the erection of a two-story addition, 26 x 28 feet.

Conradson Machine Tool Co., Green Bay, Wis., expects to begin work soon on the erection of a machine shop and foundry.

Advance-Rumley Thresher Co., Des Moines, Iowa, is building an extensive addition to its plant, to cost over $100,000.

The Oltmer Iron Works, Hoboken, N. J., has awarded contract for the erection of a foundry, 100 x 160 feet, at Jersey City, N. J.

Hewitt Rubber Co., Buffalo, N. Y., has taken out a permit for the erection of a three-story addition to its vulcanizing building.

Haynes Automobile Co., Kokomo, Ind., plans to build a two-story addition, 100 x 155 feet. A. A. Seiberling is manager.

Indianapolis Drop Forging Co., Indianapolis, Ind., will build an addition to its plant, 50 x 136 feet. Estimated cost, $25,000.

The Mayer Clarkson Co., Buffalo, N. Y., plans the erection of a one-story plant for the production of cold rolled steel, 100 x 250 feet.

Contract has been awarded by the Globe Machine & Stamping Co., Cleveland, for the erection of a two-story addition, 60 x 136 feet.

The W. Horn Structural Iron Works, Chicago, is building a one-story extension, 60 x 125 feet, to be used as an assembling shop.

Champion Machine & Forging Co., Cleveland, Ohio, has awarded contract for the erection of a one-story forge shop, 54 x 160 feet.

Globe Seamless Steel Tube Co., Milwaukee, Wis., will erect a small plant addition, in which to house a new type of piercing furnace.

Clark Paper & Manufacturing Co., Rochester, N. Y., will build a one-story addition to its plant, 80 x 130 feet. R. P. Clark is treasurer.

The Palmer Bee Co., Detroit, Mich., is having plans prepared for a one-story addition, 90 x 120 feet, to be used as an erecting shop.

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that there is a good profit in handling the high-grade line of Powell Valves?

Just now you and your men may have considerable time to spare. Why not turn your time and theirs into money by selling Powell Valves to those of your customers who are operating steam or hot water heating plants? You would be agreeably surprised at the results.

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Guaranteed "CAPITAL" Mill Brooms

The "Capital" brooms are all guaranteed and are today recognized as America's truly good brooms.

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INDIANAPOLIS, IND., U. S. A.

Englander Spring Bed Co., Brooklyn, New York City, has had plans prepared for the erection of a two-story factory, 200 x 200 feet.

St. Maurice Paper Co., Cap de la Madeleine, Que., will build an addition to its mills, costing $375,000. Reginald Loughood is manager.

United Electric Light & Power Co., New York City, has awarded contract for the erection of a motor generator building, 26 x 74 feet.

McKinney Steel Co., Cleveland, Ohio, has awarded contract for a one-story open hearth building, 152 x 164 feet. Estimated cost, $50,000.

Lakeside Paper Co., Menasha, Wis., has had plans prepared for the erection of an addition to its paper mill. Estimated cost, $80,000.

The Generator Valve Co., 47 Dinsmore Place, New York City, has had plans completed for the erection of a one-story foundry, 35 x 60 feet.

Atlantic Stamping Co., Rochester, N. Y., manufacturer of metal ware, contemplates the construction of an extensive addition to its plant.

Brinser Handle Works, Richmond, Va., is planning the erection of an extensive addition to its plant, including a boiler and engine plant.

National Enameling & Stamping Co., Granite City, Ill., plans to erect several lime kilns at a cost of $60,000; also a turbine plant at a cost of $50,000.

Lambert Machine & Engineering Co., Cleveland, Ohio, plans to build an addition to its factory. Estimated cost, $30,000. D. Lambert is president.

Seneca Wire & Manufacturing Co., Fostoria, Ohio, is contemplating the erection of an extension to its plant and the installation of additional equipment.

James Shewan & Sons, Brooklyn, N. Y., operating a shipyard and boat-building plant, will erect a one-story brick and concrete addition, 60 x 110 feet.

The National Aniline & Chemical Co., 21 Burling Slip, New York City, is making extensive improvements to its five-story works, to cost about $85,000.

Hill-Clarke & Co., Chicago, is erecting a two-story brick building, to be used as a display room and office. The estimated cost of construction is $40,000.

C. Lane, 5 Beekman street, New York City, has awarded contract for the construction of a one-story factory, 56 x 200 feet, for the manufacture of paper.

Standard Oil Co., 910 South Michigan avenue, Chicago, plans to build an addition to its refinery at Wood River, Ill. C. B. Manbeck is general manager.

Knowlton Brothers, Watertown, N. Y., paper manufacturers, have had plans prepared for extensive improvements to its plant. Estimated cost, $50,000.

J. W. Murray Manufacturing Co., Detroit, Mich., manufacturer of automobile parts, is building a two-story addition, 60 x 100 feet. Estimated cost, $25,000.

The Bridge & Beach Manufacturing Co., St. Louis, Mo., stove manufacturer, will erect a two-story extension to its plant. H. C. Hoener is vice-president.

The DePree Chemical Co., 133 West Washington street, Chicago, will build a four-story chemical factory, 70 x 70 feet, and a warehouse at Holland, Mich.

Standard Kid Manufacturing Co., Wilmington, Del., has awarded contract for the erection of a four-story factory, 42 x 100 feet. R. C. McMullen is manager.

Kohler & Campbell, Inc., New York City, manufacturer of pianos, will alter and build additions to its five-story factory, to be 50 x 300 feet. Estimated cost, $40,000.

Work has been started on the erection of a one-story factory addition, 36 x 85 feet, at Waterbury, Conn., for the Waterbury Farrell Foundry & Machine Co.

United States Auto Gear Shift Co., Eau Claire, Wis., plans to build a four-story addition, 65 x 100 feet, and a second addition, 65 x 80 feet. C. A. Olson is manager.

Eitwan Fertilizer Co., Charleston, S. C., plans to rebuild its two-story acid chambers, which were recently destroyed by fire. Estimated cost of the new plant is $125,000.

The Mentholatum Co., Buffalo, N. Y., manufacturer of drug specialities, plans to build a four-story factory, 80 x 100 feet, to cost $75,000. E. K. Hyde is general manager.

The Crucible Steel Co., of America, Syracuse, N. Y., is rebuilding two plant buildings, one and four stories, 50 x 700 feet, to be used for general manufacturing purposes.

Buffalo Fertilizer Works, Marine Bank Building, Buffalo, will rebuild its plant, recently destroyed by fire, with a four-story building, 75 x 100 feet. J. F. Brown is manager.

Morgan & Wright, Detroit, Mich., manufacturers of rubber goods, is planning for the erection of a seven-story and basement addition, 140 x 170 feet, to cost about $500,000.

William Hussey & Son, 150 West 35th street, New York City, manufacturer of plumbing supplies, is building a four-story brick extension, 42 x 100 feet. Estimated cost, $75,000.

Atlas Crucible Steel Co., Dunkirk, N. Y., is planning the construction of two additions to consist of a one-story hammer shop, 70 x 130 feet, and ageneral mill building, 50 x 70 feet.

Contract has been placed by the Beach Enameling Co., Coshocton, Ohio, for the erection of a one-story addition, 77 x 151 feet, to be of brick, steel and concrete construction.

National Paper Products Co., San Francisco, Calif., plans to build a two-story extension to its plant at Carthage, N. Y., to cost about $150,000. Additional equipment will also be installed.

Wisconsin Farm Tractor Co., Sauk City, Wis., is contemplating the erection and equipment of a one-story brick and steel addition, 60 x 100 feet. Earl Mc Farland is president and general manager.

The Brunswick-Balke Collender Co., Muskegon, Mich., will erect an addition to its plant, to cost $200,000, to be used in the production of rubber goods manufactured from left-over materials in tire making.

The Graef Wire Manufacturing Co., Neenah, Wis., is having plans prepared for the erection of a one-story machine shop, 110 x 160 feet, a two-story wire works, 44 x 160 feet, and a one-story foundry, 60 x 120 feet.

Tulsa Boiler & Sheet Iron Works, Tulsa, Okla., will equip an extension to its main shop, 100 x 100 feet, and is in the market for machinery and equipment. J. F. McKelvey is president, with address at P. O. box 1926.

Swift & Co., 32 Tenth avenue, New York City, is planning for the rebuilding of its fertilizer works, including a boiler plant, at Kearney, N. J., recently destroyed by fire. The new plant will cost about $150,000.

Clover Meadow Creamery Co., Cleveland, Ohio, has awarded contract for the erection of a two-story creamery plant, to cost $60,000. The company will require refrigeration equipment, pasteurizing equipment, etc.

Anton Louy & Co., New York City, operating a plant at 511 West 21st street, for the manufacture of marine plumbing specialties, is building a reinforced concrete addition, 125 x 190 feet, for the manufacture of metal life boats.

Charles H. Besly & Co., Chicago, manufacturer of ring wheel grinding machines and disc grinders, is having plans prepared for the extension of its main works, at Beloit, Wis., by the purchase of 66 feet of land adjacent to the plant.

Contract has been awarded by the Apex Appliance Co., Chicago, manufacturer of washing machines, to Heidel & Beck, 6437 South Morgan street, for the construction of a two-story addition, 58 x 81 feet, and of mill construction.

The Allis-Chalmers Manufacturing Co., Milwaukee, Wis., which is enlarging its main works at West Allis, to accommodate the tractor production department, contemplates the extension of the initial building, to be three stories, 110 x 320 feet.

Mascot Stove Manufacturing Co., Chattanooga, Tenn., plans to build a foundry, 80 x 250 feet, a mounting room, 50 x 100 feet, a wareroom, 100 x 100 feet. The company will install grinding machinery, dust collectors, etc. J. F. James is president.

Wyatt Metal & Boiler Works, Dallas, Texas, which recently increased its capital stock from $100,000 to $200,000, has purchased a site, 155 x 500 feet, and will erect a fireproof building to enlarge its present plant. W. J. Wyatt is president.

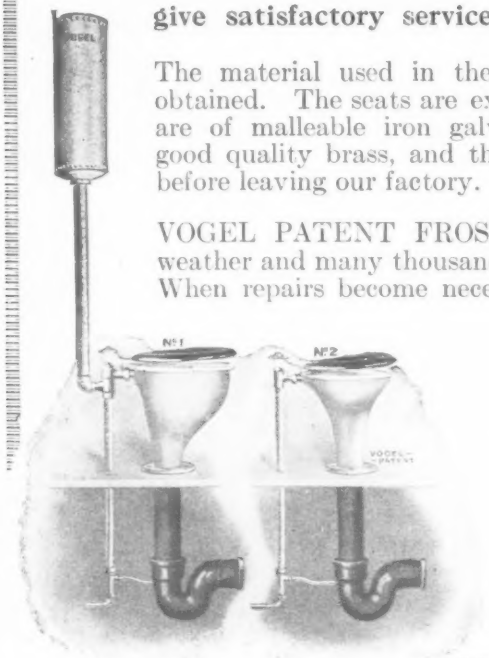
The Challoner Co., Oshkosh, Wis., manufacturer of woodworking machinery and general hardware specialties, will spend about $75,000 for extensions and improvements to its plant. It contemplates the erection of a two-story building, 70 x 220 feet, of heavy mill construction.

Lummus Machinery Co., Spartanburg, S. C., manufacturer of cotton-gin machinery, will erect three new buildings, 50 x 100 feet, 25 x 40 feet, and 25 x 75 feet, respectively. The company recently increased its capital stock from $10,000 to $50,000. Julian L. Lummus is president.

The Torbensen Axle Co., Cleveland, has placed a contract for the erection of a two-story factory addition, 110 x 140 feet. The building will be of brick and steel construction, and

VOGEL Patented Frost-Proof Closets

give satisfactory service, day in and day out, winter and summer.



The material used in the manufacture of VOGEL closets is the best to be obtained. The seats are exceptionally strong and durable, the operating levers are of malleable iron galvanized and will not break, the valve bodies are of good quality brass, and the entire fixtures are tested under hydraulic pressure before leaving our factory.

VOGEL PATENT FROST-PROOF CLOSETS have stood the test of zero weather and many thousands have been in use for years without requiring repairs. When repairs become necessary merely remove one valve cap in back of the bowl and the rod with operating parts may be removed in an instant.

The VOGEL is the simplest and most durable frost-proof water closet made. The price is right.

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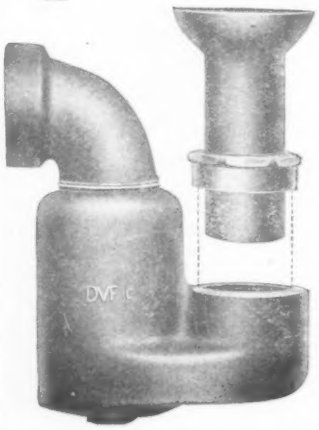


will be used for the manufacture of heavy axles for motor trucks. New machinery will also be installed.

The Leyse Aluminum Co., Kewaunee, Wis., has awarded contract for the erection of a two-story factory addition, 60 x 150 feet. The company until recently was known as the Aluminum Sign Co., and at its annual meeting adopted the new style of Leyse Aluminum Co., and increased its capital stock to $200,000, to accommodate the enlargement of its plant and business.

NEW FACTORIES

The Grip Nut Co., South Whitley, Ind., plans to build a new plant, to cost $300,000.

Mutual Truck Co., Sullivan, Ind., has purchased ten acres of land as a site for a new plant.

Boring Tractor Corporation, Rockford, Ill., has acquired a 6-acre site and will erect a new factory.

Riverside Silk Mills, Galt, Ont., has acquired a site and plans to build a new factory, to cost $50,000.

Union Carbide Co., Niagara Falls, N. Y., will build a two-story electric plant, 50 x 140 feet, to cost $45,000.

Overland Tire & Rubber Co., Omaha Neb. is building a new two-story plant, 60 x 300 feet, to cost $125,000.

Pennsylvania Tank Car Co., Sharon, Pa., is building a new plant to replace the one recently destroyed by fire.

The Kirk-Maher Co., Malone, N. Y., plans to build a three-story ice cream factory, 40 x 56 feet, to cost $40,000.

Air Reduction Sales Co., 120 Broadway, New York City, plans to erect an acetylene plant at East St. Louis, Ill.

Keystone Bronze Co., Pittsburgh, Pa., has completed plans for the erection of a plant at New Brighton, to cost $200,000.

The Laurentide Co., Ltd., Grand Mere, Que., will erect a paper mill to cost $400,000. George Cahoon, Jr., is president.

W. J. Holden, Collingwood, Ont., has purchased a site and will build a planing mill and sash and door factory, to cost $40,000.

Swift Canadian Co., Union Stock Yards, Toronto, Ont., will build a packing plant at North Edmonton, Aberta, to cost $500,000.

Captain Storm, St. John's, Newfoundland, plans the erection of a pulp and paper mill on the Terra Nova River, at a cost of $1,000,0000.

Elizabethtown Water Co., Elizabeth, N. J., is having plans prepared for the erection of a pumping station and filter house, to cost $150,000.

Haynes Stellite Co., Kokomo, Ind., manufacturers of alloys, plans to build two one-story factories, 60 x 130 feet. J. C. Patton is manager.

Standard Oil Co., 72 West Adams street, Chicago, plans to build a filling station at Eau Claire, Wis., to cost $150,000. P. M. Allen is superintendent.

Northwestern Machinery & Hydraulic Co., Vancouver, Wash., capitalized at $125,000, will establish a plant for the manufacture of hydraulic engines.

The De Leon Refining Co., De Leon, Texas, will equip an oil refinery to cost about $300,000. M. E. Smith and E. E. Costly, Tulsa, Okla., are interested.

Pennsylvania Textile Co., New York City, has had plans prepared for the erection of a one-story textile mill, 60 x 60 feet, to be erected at Greenpoint, N. Y.

Hubbard Fertilizer Co., Baltimore, Md., has awarded contract for the erection of a one and two-story fertilizer plant at Money Point, Va., to be 150 x 192 feet.

Woock Brothers, Lodi, Calif., manufacturer of pumping machinery, plans to build a plant to cover an acre of ground, for the manufacture of pump accessories.

Standard Oil Co., Astoria, Ore., will begin work shortly on the big distributing plant to be erected at a cost of $200,000, on a site purchased shortly before the war.

United Oil Mills, St. Louis, Mo., will equip a plant at Ashdown, Ark., the building to cost $50,000, and the machinery $150,000. W. Y. Foster, Sr., Hope, Ark., is president.

The D. A. Stuart Co., Chicago, manufacturer of lubricating oils, has awarded contract for the erection of a one-story factory, 80 x 126 feet, to be erected at a cost of $25,000.

Hg Electric Ventilating Co., Chicago, has purchased a site 325 x 1333 feet, on which it will erect a factory, the first unit to cost $250,000. It is planned to erect three-story buildings.

Sunlight Creameries Co., Washington, Ohio, recently incorporated with $1,000,000 capital stock, has acquired a 12-acre site, and plans to build a plant, to include a five-story cold storage plant.

United Iron Works & Machine Co., Ltd., Haileybury, Ont., recently incorporated with a capital stock of $100,000, will start work at an early date on the erection of a foundry to cost $75,000.

The Murray Co., is planning the construction of a plant at Atlanta, Ga., for the manufacture of gray-iron castings for cotton-gin and oil-mill machinery. N. B. Henry, Atlanta, is in charge.

Riverside Lumber Co., Cap de la Madeleine, Que., will build a pulp mill at a cost of $200,000. H. Bierman, manager of the Canadian-Belgo Pulp & Pauer Co., Shawinigan Falls, Que., is interested.

Panther City Oil & Refining Co., Fort Worth, Texas, has purchased a site upon which it will construct an oil refinery, with a daily capacity of 10,000 barrels. W. B. Townsend, Fort Worth, is president.

The Seng Co., Chicago, manufacturer of furniture hardware, has purchased 377,579 square feet of land and plans the erection of a new factory to cost $500,000. Construction is to be started at an early date.

Industrial Transportation Co., Carter Building, Houston, Texas, recently organized, is building a four-story meat packing plant, to cost 500,000 square feet of floor space. Estimated cost, $1,000,000. L. H. Edwards is president.

American Trailer & Body Co., Houston, Texas, has purchased a site for its proposed plant for the manufacture of motor trucks and tractors, the first unit to consist of a one-story brick and concrete building, 80 x 464 feet. J. C. Dielmann, San Antonio, has been awarded the contract.

Madison-Kipp Co., Madison, Wis., manufacturer of force-feed lubricating devices, has acquired a fifteen-acre site in Waubesa, where it intends to relocate its works. Tentative plans call for a one-story brick, steel and concrete machine shop, 150 x 200 feet. Thomas E. Coleman is vice-president and general manager.

The Roller Bearings Manufacturing Co., East Orange, N. J., recently organized with a capital stock of $2,000,000, has acquired property at Main street and the Erie railroad, 115 x 585 feet, as a site for a plant. It has taken over the Hart Roller Bearing Co. and will operate this business in connection with its own. A. C. Van Gassbeck is president.

INCREASED CAPITAL

The Nassau Valve & Pump Corporation, Rockville Center, Long Island, N. Y., announces an increase in its capitalization from $20,000 to $50,000.

The Simpson Truck Co., St. Joseph, Mich., has changed its name to the Victory Truck Co., and has increased its capital stock from $50,000 to $100,000.

The Dine-DeWeese Co., Canton, Ohio, has increased its capital from $100,000 to $200,000, and will build an addition to its automobile accessory plant.

The capital stock of the Cream City Boiler Co., Milwaukee, Wis., has been increased from $50,000 to $75,000, to accommodate the growth of its production.

The capital stock of the Yale & Towne Manufacturing Co., Stamford, Conn., manufacturer of builders' hardware, hoists, etc., has been increased to $10,000,000.

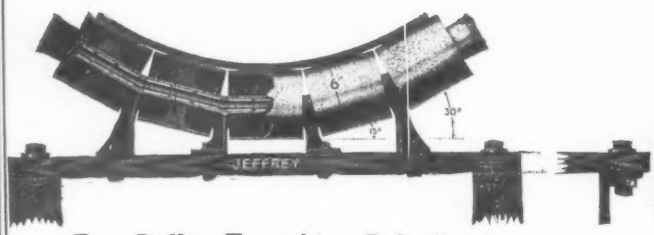
American Textile Manufacturing Co., Warren, Pa., announces an increase in its capitalization to $200,000, and will make extensive improvements to its plant.

The Eddy Paper Co., Kalamazoo, Mich., announces an increase in capitalization from $1,000,000 to $2,250,000, and will erect a two-machine board mill and a container board box plant.

The Huenefeld Co., Cincinnati, has increased its capital stock from $10,000 to $50,000. The company manufactures sheet metal specialties, and has recently completed an addition to its plant.

The capital stock of the United Steel & Wire Co., Battle Creek, Mich., has been increased from $100,000 to $200,000. The company is planning to build an addition to its plant, to include a main building, 100 x 200 feet, and a dipping plant, 32 x 40 feet.

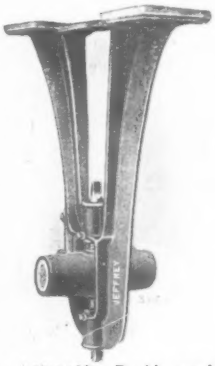
The Oneida Motor Truck Co., Green Bay, Wis., announces an increase in capital stock from $300,000 to $600,000, and will make extensive improvements to its plant. Lafayette Markel, formerly head of the Republic Truck Co., Alma, Mich., is president and general manager.



Five-Pulley Troughing Belt Carrier

Three-Pulley Troughing Belt Carrier

The pulleys are mounted upon hollow, renewable steel spindles which connect rigid and correctly designed stands. They serve also as a continuous type through which grease is supplied to bearings. The extra large grease cups at either end are always accessible, even when belt is running, but need attention only occasionally.



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Jeffrey Detachable Link Chain.

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Everything in the Line of Elevating, Conveying and Power Transmission Machinery, Chains, Buckets, Sprockets, Spiral and Belt Conveyers, Collars, Couplings, Pulleys, Hangers, etc.

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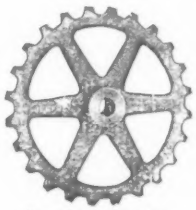
Handle it Mechanically

Jeffrey Ring Oiling Rigid Pillow Block. Furnished with Graphite Sheet Lubricator.

Malleable Iron and Steel Buckets — Sizes, Styles and Shapes for all kinds of Elevators.



Standard Sprocket Wheel.

Jeffrey Standard Steel Spiral Conveyer

The capital stock of the Badger Meter Manufacturing Co., Milwaukee, Wis., has been increased from $35,000 to $50,000. It has acquired the former plant of the Christensen Engineering Co., and will commence operations at the new quarters immediately. J. J. Leach is president and general manager.

The Simons Manufacturing Co., Cleveland, manufacturer of automobile parts, has increased its capital stock from $200,000 to $500,000, for the expansion of its business. New equipment is to be installed at its plant, and branch offices are to be opened at Dallas, Texas, St. Louis, Mo., and Hokoben, N. J.

NEW INCORPORATIONS

National Piston Ring Co., Newark, N. J., Albert Werner, 85 Johnson avenue, heads the company.

Beaver Machine & Tool Co., Newark, N. J., $250,000, by Anton Felin, E. B. Slade and Hugo Burgman.

The Comet Tool & Manufacturing Co., Chicago, $25,000, to manufacture and deal in tools and machinery.

Mauer Pipe Co., Wilmington, Del., $50,000. Incorporators include Harry L. Mauer and S. D. Townsend, Jr.

Advance Leather Machinery Co., Boston, Mass., $50,000, by J. W. Baird, William Fitzgerald and J. C. Griffin.

Gordon Radiator Co., New York City, $25,000, by H. B. Gordon, A. P. Anderson and J. Bramwell, 34 Nassau street.

Jamestown Boiler Works, Jamestown, N. Y., $50,000. Incorporators: G. W. Edwards, G. O'Brien and A. S. O'Brien.

Murray Wire Co., Newark, N. J., $125,000, to manufacture wire products, by J. H. Murray, Peter Igoe and J. R. Cooney.

Central New York Tire & Tube Co., New York City, $20,000, by C. A. Weldee, H. Hartstein and S. Bernheim, 35 Nassau street.

Weyler Brass Foundry Corporation, New York City, $10,000, by A. Lashareff, V. Crasnoff, 205 West 85th street, and H. Weyler.

New Rochelle Machine & Repair Co., New Rochelle, N. Y., $5,000, by C. S. Schaffer, M. A. Loftus and M. Smith, 233 Broadway.

Brammer Tool Die & Machine Co., Indianapolis, Ind., $5,000, by Albert E. Cottey, Frank N. Linder and Edward R. Brammer.

Ferro Electric Welding Co., Inc., Brooklyn, N. Y., $150,000. Incorporators include K. Furuboth, 128 West 61st street, Brooklyn, N. Y.

Michigan City Foundry & Machine Co., Michigan City, Ind., $50,000, by Edward A. Simpton, L. N. Kramer and Walter K. Greenbaum.

American Tire & Rubber Co., Muskogee, Okla., $100,000. Incorporators include William McMullen, Fort Smith, Ark., and C. F. Harris, Poteau, Okla.

Louis C. Rogers, Inc., Rochester, N. Y., $25,000, to manufacture sheet metal specialties. Incorporators: E. P. Milhofer, L. K. Rogers and L. C. Rogers.

Azadian Insrtument Corporation, Syracuse, N. Y., $25,000, to operate a foundry and machine shop. Incorporators: V. Metzger, K. R. Standrell and H. B. Azadian.

Walmax Manufacturing Co., Newark, N. J., $125,000, to manufacture metal products. Incorporators include Max Walther and Oswald Jentsch, West Orange.

Presto Welding Co., Indianapolis, Ind., $5,000, to manufacture machinery and tools. Incorporators: William Thompson, A. D. Miller and Edwin B. Leeser.

Mason Specialty Co., Cambridge, Mass., $99,000, to manufacture machinery and specialties. Incorporators: W. Kennedy Mason, J. M. Mason and Joseph E. Vincent.

The Wood & Metal Products Co., New York City, $10,000, to manufacture metal goods and wood specialties. Incorporators: A. M. Tozzi, E. H. Smith and E. E. Gardner.

Union Tank & Pipe Co., Los Angeles, Calif., $100,000, to manufacture steel tanks and pipe. Incorporators: Stuart M. Salisbury, Morgan L. Sweeney and Edward J. Bowen.

Boston Marine Works, Boston, Mass., $50,000, to build boilers and machinery. Incorporators: Wallace J. Hatfield, Everett, Mass.; Thomas McGrath and Cornelius J. Donovan, East Boston.

The W. G. Runkles Machinery Co., Trenton, N. J., $125,000, to manufacture machinery. Incorporators: W. G. Runkles, Trenton, N. J.; Charles T. Clarke, Trenton, and C. C. Klockner, Fallsington, Pa.

Union Machine Co., Louisville, Ky., $15,000, to manufacture milling machinery and electrical devices and conduct a brass foundry. Incorporators: Harry Buckley, M. L. Kannapell and Ray Buckley.

Norma Motor Corporation, New York City, $50,000, to manufacture machinery. Incorporators: F. Ammann, Sr., and F. Ammann, Jr., North Hackensack, N. J., and W. W. Walton, 420 Riverside Drive, New York City.

Keeley Tire & Rubber Co., New Haven, Conn., has been incorporated in Delaware with a capital stock of $1,000,000, to manufacture tires and other rubber products. Incorporators include Edward J. Keeley and Charles H. Bortell, Jr., New Haven.

The W. J. Pine Machine Co., Kenosha, Wis., $25,000, to take over the plant and business of the Lippert Machine Co., Kenosha. Incorporators: W. J. Pine, Albert A. Buckmaster and Walter W. Hammond. The company will do a general machinery manufacturing and repair business, and plans to enlarge present buildings and equipment.

Hayton Pump & Blower Co., Appleton, Wis., $50,000, by T. R. Hayton, E. D. Rasmussen and H. E. Hayton. The company has acquired the machine shop and foundry of the defunct Killen-Strait Tractor Co., Appleton, and is converting the shop into a plant for the manufacture of centrifugal pumps, turbines and blower systems.

GENERAL NEWS

The Gits Brothers Manufacturing Co., manufacturer of oil cups, has moved to 1940 South Kilbourne avenue, Chicago.

Universal Nut Lock Co., Portland, Ore., will remove its plant to the district known as the Industrial Sites, Seattle, Wash.

The Sterling Wheelbarrow Co., Milwaukee, has established a factory branch at 79 Milk street, Boston, in charge of R. F. Jordan.

Warren, Webster & Co., Camden, N. J., manufacturer of feed water heaters, has opened a branch office at 805 Sumpter Building, Dallas, Texas, in charge of W. B. Irwin.

The Blackmer Rotary Pump Co., has transferred its general sales office from Petoskey, Mich., to the Book Building, Detroit, with J. H. Oldham and J. B. Huycky in charge.

The Alexander Milburn Co., Baltimore, Md., manufacturer of welding apparatus, has opened a branch office at 998 Monadnock Building, San Francisco, Calif., in charge of E. F. Walter.

J. R. Stone Tool & Supply Co., Detroit, has been appointed as the Michigan representative of the Advance Tool & Supply Co., Cincinnati, manufacturer of small tools, reamers and milling cutters.

The Pittsburgh office of the Milwaukee Crane & Manufacturing Co., formerly located at 704 Empire Building, now is at 2201 Farmers Bank Building. Charles M. Sullivan is district sales manager.

The Gillette Rubber Co., Eau Claire, Wis., manufacturer of tires and tubes, has taken over the Eau Claire Manufacturing Co., for the purpose of manufacturing machinery and equipment for the trade.

The Walworth Manufacturing Co., Boston, Mass., has taken over the exclusive sale for the New England states of the well known Foster Engineering Company's specialties, valves and pressure regulators.

The Bartlett-Hayward Co., Baltimore, Md., has purchased the stock of the Hammered Piston Ring Co., of America, with plant at Newark, N. J. It is planned to continue the operations of the plant at Newark.

The Leland-Clifford Co., Worcester, Mass., has leased quarters at 621 West Washington Boulevard, Chicago, for the sale and demonstration of its high-speed drilling machine. Clarence H. James is in charge.

Norton Co., and the Norton Grinding Co., Worcester, Mass., have ordered 100 bicycles which they will sell on easy terms to their employes, in view of the street car fares being raised to 7 cents in that city.

The Products Supply & Tool Co., Marietta, Ohio, jobber in oil well machinery and supplies, will open three branch plants in Texas and Oklahoma. The company recently increased its capital for this purpose.

The factory formerly occupied by the Swiss Magnet Co., Monroe, Mich., has been purchased by the Brisk Blast Co., of that city, manufacturer of pumps and automobile tires. The new owner contemplates the erection of a new foundry at an early date.

Why It Pays to Sell Rex Chain

Rex Chain is the only chain nationally advertised to every industry.

Levalley processes give it many unique advantages—all making for greater endurance and value.

And with Rex Chain goes the completest line of sprockets—including Rex Temperim Sprockets—set collars, buckets, elevators and engineering service.

Because of the strong and well-known Company back of it, any Rex line is easy to sell—and once sold makes sales for the others.

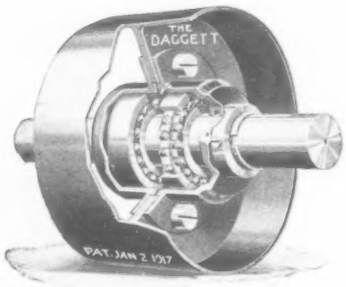
CHAIN BELT COMPANY, MILWAUKEE
768 PARK STREET

REX CHAIN

NEW YORK PHILADELPHIA CHICAGO PITTSBURGH

Rex Traveling Water Screens, Rex Concrete Mixers.
Rex Sprockets, Rex Elevators and Conveyors

A type of Rex GriplockChain used in Saw Mills.



SKF Ball Bearing Loose Pulley

The CHICAGO Line

One of Many Specialties in Our Complete Line of Power Transmitting Appliances

SKF Ball Bearing Loose Pulleys

They are eliminating trouble and expense; no dripping of oil, noiseless, dust-proof, highly balanced, run at any speed, require lubricating only three or four times a year. Every pulley is tested and filled with lubricant enough to last six months before leaving our factory. Simple to install—place on the shaft and tighten one set screw.

We stand behind our dealers and guarantee SKF BALL BEARING LOOSE PULLEYS to satisfy every user. Clean as a whistle and cannot wear the shaft; suitable for Machines, Counters, Mules, Idlers and Friction Clutches.

DEALERS' PROPOSITION ON REQUEST

Factory
Menomonee Falls, Wisconsin

Chicago Pulley & Shafting Co.
40 S. Clinton St., Chicago

Main Office
40 So. Clinton St., Chicago, Ill.

PIONEERS IN BALL BEARING POWER TRANSMISSION APPLIANCES

Crane Co., Chicago, has purchased the stock and jobbing business of the Rockford Brass Works, at Rockford, Ill., and will operate this business as one of its branches. The Rockford Brass Works will continue to operate its manufacturing plant as heretofore.

The Chicago Pneumatic Tool Co., Chicago, has established its own branch at St. Louis, at 813 Hempstead street, under the management of H. W. Buker, district manager of sales. It will maintain a stockroom and service station, as well as district offices at St. Louis.

The Duntley-Dayton Co., Dayton, Ohio, has taken over the entire output of the Dayton Pneumatic Tool Co. O. W. Duntley, former president of the Chicago Pneumatic Tool Co., is president of the new concern, and his son, Captain C. A. Duntley, is vice-president. The offices of the Duntley-Dayton Co., are located in the Westminster Building, Chicago.

CLASSIFIED ADVERTISEMENTS

Classified Line Advertisements under heads of Wanted, For Sale, etc., will be published in this Department at a rate of 25 cents a line, each insertion. Count nine words to a line.

SALESMEN WANTED

WANTED—Two top-notch salesmen, mill and mine supplies—one to work coal fields—other for oil country road. Must have large acquaintance and experience in these lines, otherwise do not take up our time. Address Standard Sanitary Manufacturing Co., Jobbing Division, 439 Water St., Pittsburgh, Pa. 3

WANTED—A number of high grade salesmen for the following positions and with the following qualifications: For Michigan—2 experienced valve salesmen; resident valve salesman for Toledo; general salesman for valves and mill supplies for Western and Northern Pennsylvania; resident salesman in same lines for Rochester and Buffalo. Only those having had experience in these lines will be considered. Reply by letter, stating age, experience, references and salary desired. Address J. R. Bennett, Manager, The Fairbanks Co., 108 Pearl St., Buffalo, N. Y. 3

WANTED—Mill supply salesmen to sell watchman's clocks on commission in connection with other lines. Hardinge Bros., Inc., 4145 East Ravenswood avenue, Chicago. 3-4-5

WANTED—Experienced belting salesman; one having an acquaintance with New England trade preferred. Address Box 608, care MILL SUPPLIES, 537 South Dearborn Street, Chicago. 3

WANTED—Man to sell line on commission in connection with other lines. K-M Manufacturing Co., Factories Building, Toledo, Ohio. 2-3

WANTED—Salesman for flax, jute and asbestos packing house in New York, acquainted with jobbing trade. State salary, experience, reference. Address No. 605, care MILL SUPPLIES, 537 South Dearborn Street, Chicago. 2-3

WANTED—Salesmen and jobbers to handle our turret attachments for lathes and drill presses; also adjustable light brackets. Big demand. Easy sales. Address Newman Manufacturing Co., Cincinnati, Ohio. 10-11-12-1-2-3

WANTED—Factory and mill supply salesmen to handle a preservative oil on a straight commission, exclusive territory basis. Ten years' continuous use in many of the largest plants, proof of merit. Address: Manufacturer, 123 East Canal St., Cincinnati, Ohio. 1-2-3

WANTED—By salesman with established Cleveland offices covering factory and mill trade of Northern Ohio, exclusive selling connection with reliable manufacturer for line of goods, staple article or product of real merit. Will finance accounts or handle on commission basis. Address No. 610, care MILL SUPPLIES, 537 South Dearborn Street, Chicago. 3

EXCLUSIVE AGENCIES WANTED

WANTED—By established manufacturer's agent, exclusive agency of specialties or line such as hardware, mill, factory or engineers' supplies. Address E. A. Nicoll, 34 Franklin Building, Baltimore, Md. 3-4-5

WANTED—An excellent opportunity is open to salesman who is familiar with power transmitting machinery. Kindly state experience, territories which you have covered and salary expected. Address No. 611, care MILL SUPPLIES, 537 South Dearborn Street, Chicago. 3

STORE MANAGER WANTED

WANTED—Active man between the ages of 25 and 40 to take charge of the store and shipping in a rapidly growing mill and machinery supply house. Must understand boiler and engine room requirements. Address Corken Machinery & Supply Co., 213 West First St., Oklahoma City, Okla. 2-3

ELECTRICAL MACHINERY FOR SALE

FOR SALE—Electric power plant, now on skids at Redwine, Kentucky, can ship at once. Recently overhauled and is in perfect working order. Price 6,750, f. o. b. care Redwine, Ky., sight draft and B/L attached. Can be inspected any time.

1 General Electric Curtis Turbo Unit consisting of:

Generator: 1-750 K. W. General Electric verticle 3 phase, 60 cycle, 2300 or 440 volts, 1800 R. P. M.

Turbine: 750 K. W. condensing (550) K. W. Non-Condensing Curtis verticle, 1800 R. P. M., 150 lbs. steam pressure at throttle, 28" vacuum.

Above complete with all piping equipment.

No condenser equipment.

Address Lenox Saw Mill Co., Lenox, Ky. 12-1-2-3

SITUATIONS WANTED

WANTED—By salesman with fifteen years experience selling power plant, factory and mine equipment, boilers, engines, pumps, pipe valves, fittings, transmission, etc., city sales or responsible inside position. Address No. 609, care MILL SUPPLIES, 537 South Dearborn Street, Chcago. 3

WANTED—Refined, intelligent gentleman of thirty-four years, desires selling position with reliable concern where not less than $250 monthly can be made. Prefer South. Only high grade concerns will be considered as the one I select will be properly represented. Address No. 606, care MILL SUPPLIES, 537 South Dearborn Street, Chicago. 2-3

SALESMAN—Power Transmission Appliances. Eleven years' experience, nine years present position. Valuable acquaintance among New England, New Jersey, New York City and state hardware and mill supply dealers. Familiar with export trade. Address Box 607, care MILL SUPPLIES, 537 South Dearborn Street, Chicago. 2-3

ACCOUNTS SOLICITED

Henry J. Veith, Jr.,
Curb Broker
Box 926 New Orleans, La.
Soliciting Reliable Accounts
of
Plumbing goods—Hardware and mill supplies—Iron and steel products.

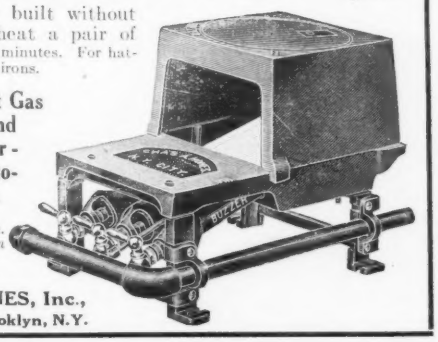
McCAULEY BELTING COMPANY
LEATHER BELTING
412-420 ORLEANS STREET, CHICAGO, ILL.

BUZZER No. 43

Hottest ever built without blower. Will heat a pair of 14-lb. coppers in 7 minutes. For hatchet and large size irons.

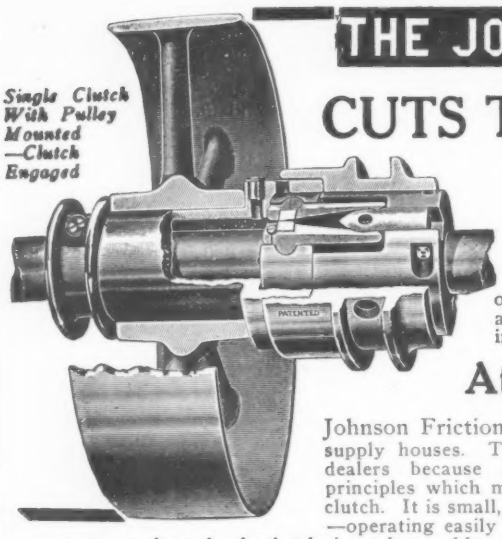
Automatic Blast Gas Soldering and Melting Furnaces, Laboratory Burners, etc.

Write for Catalogue. Dealers' Terms on request.



CHAS. A. HONES, Inc.,
90 Noble St., Brooklyn, N.Y.

THE JOHNSON FRICTION CLUTCH



Single Clutch With Pulley Mounted —Clutch Engaged

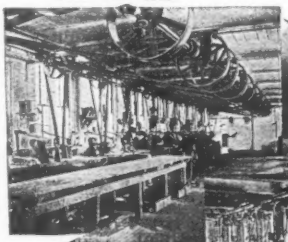
CUTS TRANSMISSION COSTS ½

THE advantages of driving machinery from the line shaft with **Johnson Friction Clutches** are graphically shown in the accompanying pictures. The left-hand view shows the original installation, with countershafts over each machine. The right-hand picture shows the same equipment with **Johnson Friction Clutches** in place of the countershafts. Result—one-half less initial cost, one-half less friction, one-half less trouble and repair, and a cleaner, lighter machine room. **How many plants in your territory would benefit from such a change?**

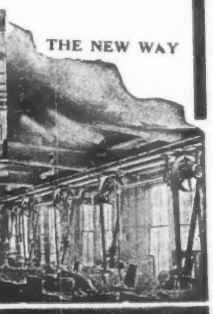
Attractive Dealer's Proposition

Johnson Friction Clutches are now carried in stock by many of the leading supply houses. This clutch appeals to dealers because it embodies all the principles which make a perfect friction clutch. It is small, powerful, simple, neat —operating easily and quietly. Has few parts, each made absolutely interchangeable. Being nicely balanced, it runs at high speed without vibration. Has no protuding parts, making accidents impossible. No bolts, nuts, links, etc., to become loose and cause trouble. Instantly adjusted to any tension with one screw. Working parts entirely covered, eliminating trouble from dirt. Made both single and double type.

THE OLD WAY



THE NEW WAY



You can handle our line.

Write for literature, dealers' terms, and Catalog "D-R"

THE CARLYLE JOHNSON MACHINE CO. MANCHESTER CONN.

TRADE MARK

This is the Stamp of Efficiency

THE LIDSEEN POSITIVE FORCE FEED OILERS

TRADE MARK

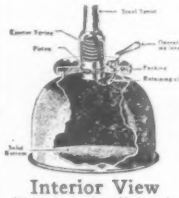
This is the Stamp of Efficiency

POSITIVELY SAVE OIL

MR. JOBBER:

Why don't you send for prices and samples of this wonderful oiler?

Talk efficiency in operation and oil saving to your customers; they will thank you.



Interior View
Showing simplicity in construction and operation.

Welded Spouts
Large Opening for Filling
Curved FLANGES and LOCKING MEMBERS make this oiler leak proof at can connection.

We have large facilities. Prompt delivery in any quantities.

When in Chicago look at Jobbers' Windows for Lidseen Oiler Displays.

Ask me Personally
GUSTAVE LIDSEEN
224-230 N. Desplaines St., Chicago

GET THIS BOOK

Our No. 18 catalog, just off the press, illustrates and describes our complete line of metal and woodworkers' vises. ***Send for a copy at once.*** Massey Vises are guaranteed to give you the service you have a right to expect from good shop equipment.

Dealers: Your trade will like Massey Vises

MASSEY VISE COMPANY
549 Washington Blvd. **CHICAGO, U. S. A.**

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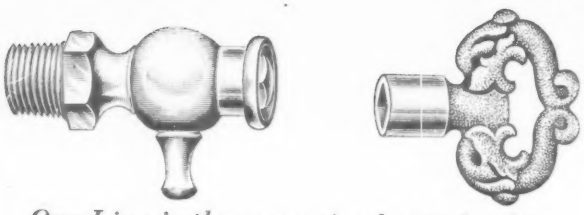
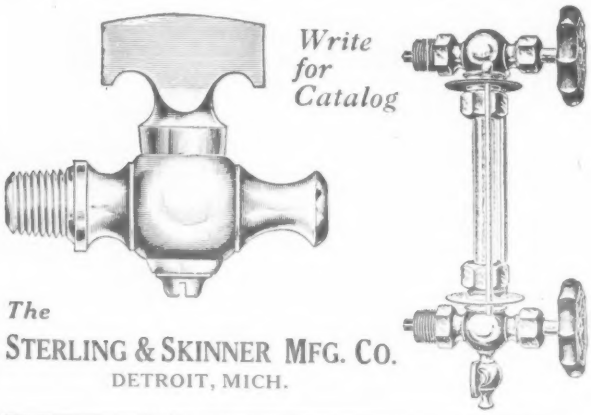


Our Line is the recognized standard on

Air Cocks
Air Valves
Cylinder Cocks

Gauge Cocks
Water Gauges
Priming Cocks



Write for Catalog

The
STERLING & SKINNER MFG. CO.
DETROIT, MICH.

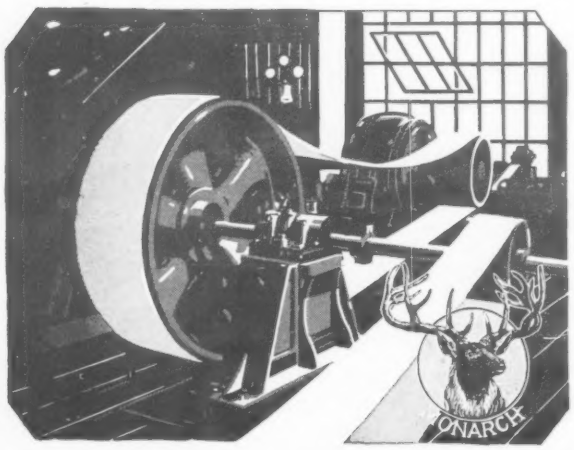
As We Have Said Before—

OUR Policy is one of Trade Protection. It is coincident with yours. It's reciprocating. It works both ways—for your interests and our own. To warrant your continued help and confidence, we make our goods as GOOD as they can possibly be made — advertise them to the consuming trade — create the demand and depend upon YOU entirely to supply it.

And—remember, the Prices we offer you are such that you can easily re-sell Williams Specialties at a reasonable price and make a good, substantial Profit besides.

Now, please, don't procrastinate. Surely, you can see that your acquaintance coupled with ours must lead to Mutual Profit, so write us Today and get full details of our Exclusive Agency proposition.

The D. T. Williams Valve Company
Spring Grove and Township Street
CINCINNATI, OHIO



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"Monarch" Leather Belting is made of firm-fibered leather, cut from the choicest hides of young cattle, tanned, curried and treated by methods which impart to it the fullest strength and quality.

No wonder "Monarch" last so long—and sells so well.

Write for prices and discounts.

THE BRADFORD BELTING COMPANY
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Standardized Quality

White and Colored

Efficient Service

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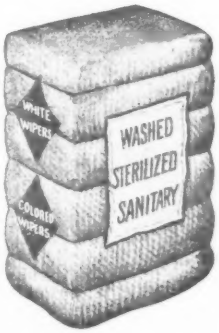

Packed in Machine Compressed Bales Weighing
600 lbs.
300 lbs.
200 lbs.
100 lbs.
50 lbs.

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We are Packers, Washers and Manufacturers of a complete line of Wiping Cloths of Guaranteed Quality that satisfies the most discriminating users.

Dealers, Jobbers, Supply Houses
Write Now for Proposition

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*Chicago Rawhide Mfg. Co.
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McIlroy Belting & Hose Co.
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"Rusco"—The Russell Mfg. Co.
*"Stanley"—Stanley Belting Co.
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*Chicago Rawhide Mfg. Co.
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*Graton & Knight Mfg. Co., The
*Jewell Belting Co.
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*New York Leather Belting Co.
"Rubber-Ite"—McIlroy Belting & Hose Co.
"Rusco"—The Russell Mfg. Co.
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"Pexto"—The Peck, Stow & Wilcox Co.

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*Chicago Rawhide Mfg. Co.
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*New York Leather Belting Co.
*Chas. A. Schieren Co.
*I. B. Williams & Sons.

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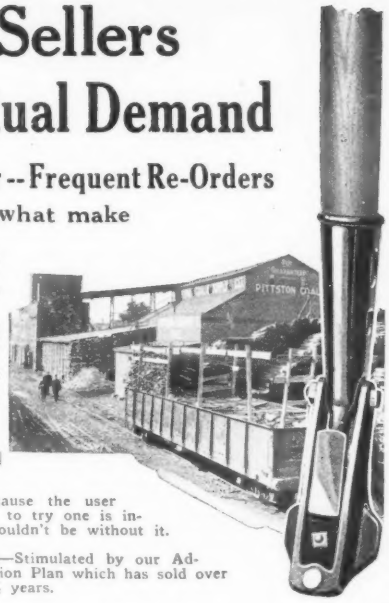

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Quick Turnover—That's What Talks To You. Frequent Re-orders—What We Both Like.

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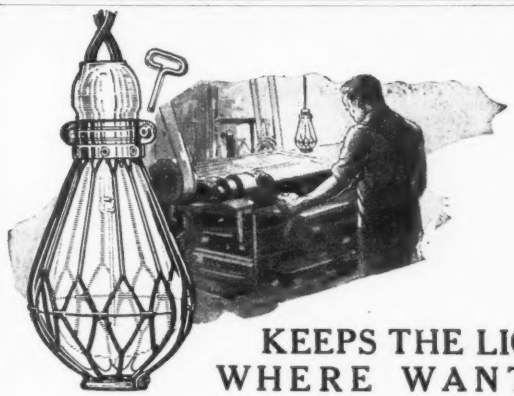

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The lamp gives its light for its full life when protected by a

FLEXCO-LOK LAMP GUARD

The guard which prevents breakage, unauthorized removal or theft of lamps.

Thus it saves you many times its cost during the course of a year.

Lamp wastage is a preventable item. If you will investigate your loss and then install Flexco-Lok Guards you will reduce it to a minimum.

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The Flexible Steel Lacing Co.

Also Manufacturers of Alligator Steel Belt Lacing

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"IT'S on a countershaft drive and has seen all sorts of hard service for more than twenty-five years, and it's still good for more. Who made it? Why it's a Phoenix Belt, made by the New York Leather Belting people—and a tougher, more durable belt never hugged a pulley. It's been carrying a full load, too—and it isn't burnt or cracked anywhere. A little worn, to be sure, but still good for service."

That sort of service is not unusual from Phoenix belts bearing the N. Y. L. B. trademark. The reason is simple — absolutely first quality center stock cut from finest steer hides—made into belting by men who have been building good leather belting all their lives.

Look for the trademark of the New York Leather Belting Company on every roll of belting that you buy. It is your guarantee of dependable service—and economical operation. Write for interesting dealer's proposition.

New York Leather Belting Company

Leather Belting, Lace Leather, Leather Strapping and Specialties
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Chicago Branch: 32 So. Jefferson St.
Dealers in principal cities of the United States.

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(See "Belting, Leather.")

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*Chicago Rawhide Mfg. Co.

LEATHERS, HAND
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*Chicago Rawhide Mfg. Co.

LONGSCREWS
National Tube Company.

LUBRICANTS
Joseph Dixon Crucible Co.

LUBRICANTS, BALL AND ROLLER BEARING
*Royersford Foundry & Machine Co.

LUBRICATORS
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Bowen Products Corp.
*Detroit Lubricator Co.
*McRae & Roberts Co.
*Michigan Lubricator Co.
*Penberthy Injector Co.
*The Wm. Powell Co.
*The D. T. Williams Valve Co.

MACHINE TOOLS
Somers, Fitler & Todd Co.

MACHINERY CLUTCHES
*Hilliard Clutch & Machinery Co., The
The Carlyle Johnson Machine Co.

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*Dodge Sales & Engineering Co
*The Jeffrey Mfg. Co.
Link-Belt Company
*The Yale & Towne Mfg. Co.

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H. W. Caldwell & Son Co.
*Dodge Sales & Engineering Co.
*The Jeffrey Mfg. Co.
Link-Belt Company
"Rex"—Chain Belt Company

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*Royersford Foundry & Machine Co.
Wisconsin Electric Co.

MACHINES, HACK SAW
*Kwik Kut, E. C. Atkins & Co., Inc.

MACHINES, PIPE CUTTING AND THREADING
*"Beaver"—The Borden Company.
*The Curtis & Curtis Co.
*Toledo Pipe Threading Machine Co.

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*Royersford Foundry & Machine Co.

MACHINERY, WOODWORKING
*The Crescent Machine Co.
Somers, Fitler & Todd Co.

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*Chicago Rawhide Mfg. Co.

MATS AND MATTING, RUBBER
*Diamond Rubber Co., Inc.
*New York Belting & Packing Co.

MERCHANDISE CONVEYERS
F. E. Myers & Bro.

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*Dodge Sales & Engineering Co.
*Medart Patent Pulley Co.
*Reeves Pulley Co.
United Smelting & Aluminum Co., Inc.

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*Chicago Belting Co.
*Graton & Knight Mfg. Co., The
*Chas. A. Schieren Co.

MILL SUPPLIES
Somers, Fitler & Todd Co.

MIXERS, CONCRETE
"Rex"—Chain Belt Company

MOTOR TRUCKS
The White Company

MOTORS, AUTOMOBILE
*Reeves Pulley Co.

MOVERS, CAR
Advance Car Mover Co.
*Appleton Car-Mover Co.

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*Dodge Sales & Engineering Co.
*Medart Patent Pulley Co.
*T. B. Wood's Sons Co.

OAKUM
W. O. Davey & Sons.

OIL WELL ACCESSORIES
*The Wm. Powell Co.

OILERS, FORCE FEED
Gustave Lidseen, Chicago.

OILING DEVICES
W. D. Allen Mfg. Co.
*American Injector Co.
Bowen Products Corp.
Gustave Lidseen, Chicago.
*The D. T. Williams Valve Co.
*The Wm. Powell Co.

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Dominion Asbestos & Rubber Co.
*Hollow Center Packing Co.
*New York Belting & Packing Co.

PACKING, ASBESTOS
Dominion Asbestos & Rubber Co.
*Hollow Center Packing Co.
*General Asbestos & Rubber Co.

PACKING, HYDRAULIC
The Aldrich Pump Co.
*Chicago Rawhide Mfg. Co.
Dominion Asbestos & Rubber Co.
*General Asbestos & Rubber Co.
*Hollow Center Packing Co.
*New York Belting & Packing Co.

PACKING, LEATHER
*Chicago Belting Co.
*Chicago Rawhide Mfg. Co.
*Graton & Knight Mfg. Co., The
*Chas. A. Schieren Co.

PACKING, PISTON
*"Cobbs"—New York Belting & Packing Co., Ltd.
Dominion Asbestos & Rubber Co.
*General Asbestos & Rubber Co.
*Hollow Center Packing Co.
*"Magic Expansion"—New York Belting & Packing Co., Ltd.

PACKING RING
Dominion Asbestos & Rubber Co.
*General Asbestos & Rubber Co.
*Hollow Center Packing Co.

PACKING, ROD
Dominion Asbestos & Rubber Corp.
*General Asbestos & Rubber Co.

PACKING, RUBBER
*Diamond Rubber Co., Inc.
Dominion Asbestos & Rubber Co.
*General Asbestos & Rubber Co.
*The B. F. Goodrich Co.
*Hollow Center Packing Co.
*New York Belting & Packing Co

PACKING, SHEET
Dominion Asbestos & Rubber Corp.
*Diamond Rubber Co., Inc.
*General Asbestos & Rubber Co.
*The B. F. Goodrich Co.
*Hollow Center Packing Co.
*"Jenkins '96"—Jenkins Bros.
*New York Belting & Packing Co.

PACKING, VALVE STEM
Dominion Asbestos & Rubber Corp.
*General Asbestos & Rubber Co.
*Hollow Center Packing Co.
*New York Belting & Packing Co

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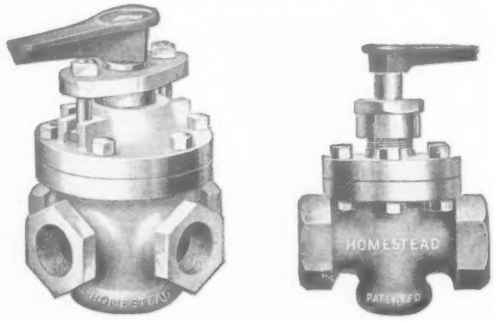
*"Beaver Square End"—The Borden Company.
*Toledo Pipe Threading Machine Co.

*Members American Supply & Machinery Manufacturers' Association.

Satisfied Customers *mean* Profitable Business



Homestead *Quarter Turn* **Valves**

are rendering efficient service in countless Mills and Factories throughout this country on water, air and steam lines; on operating machines, and in other places where the service is severe. ¶ The next time your customers are in need of a dependable valve on a troublesome line, be sure to recommend

Homestead Quarter-Turn Valves

Made in the Straight-Way, Three-Way, Four-Way and Angle patterns, of Brass, Semi-Steel, Monel Metal and special compositions, in all sizes up to 6" and in all pressures to 5,000 lbs. to the square inch.

HOMESTEAD VALVE MFG. COMPANY
HOMESTEAD - - - - - PA.

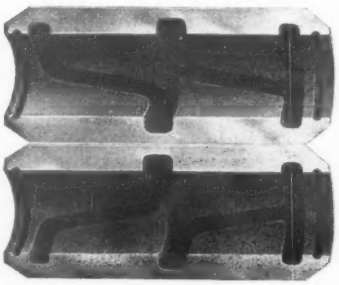
Circulating Oil Bushing

TRADE MARK "C O B" REGISTERED

The only bushing with a positive circulation keeping the oil in a constant flow to both ends and back to center. Will run high speed and save 90% of oil.

W. T. SHACKLEY & SON CO.
49 HIGH STREET :: BOSTON, MASS.

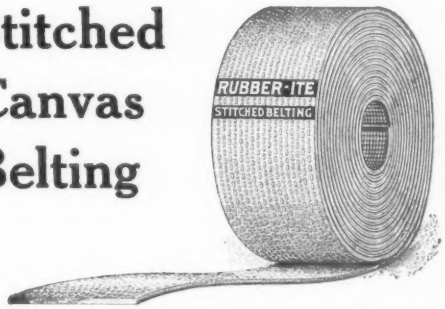
Write for our Agency Proposition



Note the Fins and Oil Grooves

No Wicks

Rubber-Ite-
Stitched Canvas Belting



RUBBER-ITE STITCHED CANVAS BELTING is the highest grade of Stitched Canvas Belting manufactured today. It is black in color and the compound used in the impregnation of this belting is made from elaterite which preserves the cotton from mildew and rot. It also makes the belting absolutely waterproof, heat, oils or acids will not affect it. Manufactured by

The McIlroy Belting & Hose Company
HAMMOND, INDIANA

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WASTE

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*Dodge Sales & Engineering Co.
*Hilliard Clutch & Machinery Co.
The Carlyle Johnson Machine Co.
*Jeffrey Mfg. Co.
Link Belt Company
*W. A. Jones Foundry & Machine Co.
*Medart Patent Pulley Co.
*The Moore & White Co.
Pyott Co.
Pyott Foundry Co.
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*The Bradford Belting Co.

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*"Wright"—Wright Mfg. Co.

PULLEY COVERING
*"Mor-Ful"—The Bradford Belting Co.
*Chicago Rawhide Mfg. Co.

PULLEYS, CAST IRON
*Dodge Sales & Engineering Co.
*Jeffrey Mfg. Co.
*W. A. Jones Foundry & Machine Co.
Link-Belt Company
*Medart Patent Pulley Co.
Pyott Co.
Pyott Foundry Co.
*Royersford Foundry & Machine Co.
*T. B. Wood's Sons Co.
*Valley Iron Works.

PULLEYS, CONVEYER
*Medart Patent Pulley Co.
Pyott Foundry Co.

PULLEYS, FLANGE
*Dodge Sales & Engineering Co.
*Medart Patent Pulley Co.
*The Ohio Valley Pulley Works.
Pyott Foundry Co.
*Reeves Pulley Co.

PULLEYS, FRICTION CLUTCH
*Chicago Pulley & Shafting Co.
*Dodge Sales & Engineering Co.
The Hilliard Clutch & Machinery Co
The Carlyle Johnson Machine Co.
*W. A. Jones Foundry & Machine Co.
*Medart Patent Pulley Co.
*The Moore & White Co.
Pyott Co.
*T. B. Wood's Sons Co.
*"The Reeves"—Reeves Pulley Co.

PULLEYS, GROOVED
*Dodge Sales & Engineering Co.
*Medart Patent Pulley Co.
*The Ohio Valley Pulley Works
Pyott Foundry Co.
*Reeves Pulley Co.

PULLEYS, HEADED
*Dodge Sales & Engineering Co.
*Medart Patent Pulley Co.
*Reeves Pulley Co.

PULLEYS, IRON CENTER
*Dodge Sales & Engineering Co.
*The Ohio Valley Pulley Works.
*Medart Patent Pulley Co.
*Reeves Pulley Co.
*T. B. Wood's Sons Co.

PULLEYS, LOOSE
Chicago Pulley & Shafting Co.
*Dodge Sales & Engineering Co.
*Medart Patent Pulley Co.
*The Ohio Valley Pulley Works.
Pyott Co.
Pyott Foundry Co.
*Reeves Pulley Co.

PULLEYS, STEEL
*"Keystone" and "Oneida"—Dodge Sales & Engineering Co.
W. T. Shackley & Son Co.

PULLEYS, STEEL RIM
*Medart Patent Pulley Co.

PULLEYS, STEP CONE
*Dodge Sales & Engineering Co.
*Medart Patent Pulley Co.
*The Ohio Valley Pulley Works.
Pyott Co.
Pyott Foundry Co.
*Reeves Pulley Co.

PULLEYS, TAPER CONE
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Almost Every Requirement

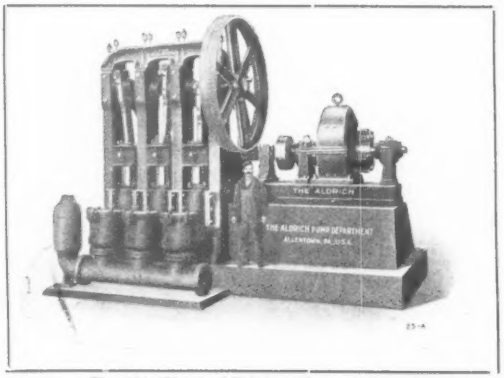


Fig. 164—Vertical Triplex—Four Standard Design

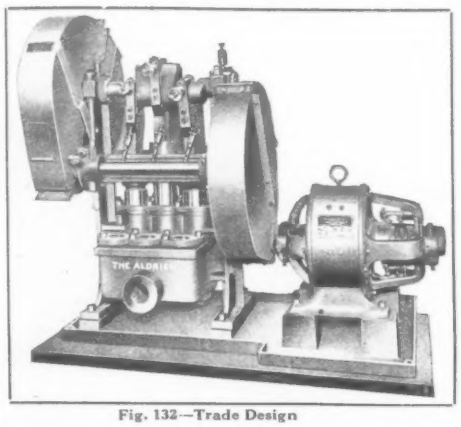


Fig. 132—Trade Design

Hydraulic Power Plants, General Water Supply
Boiler Feed Service, Etc.

Our Complete Descriptive Data
Sent on Request

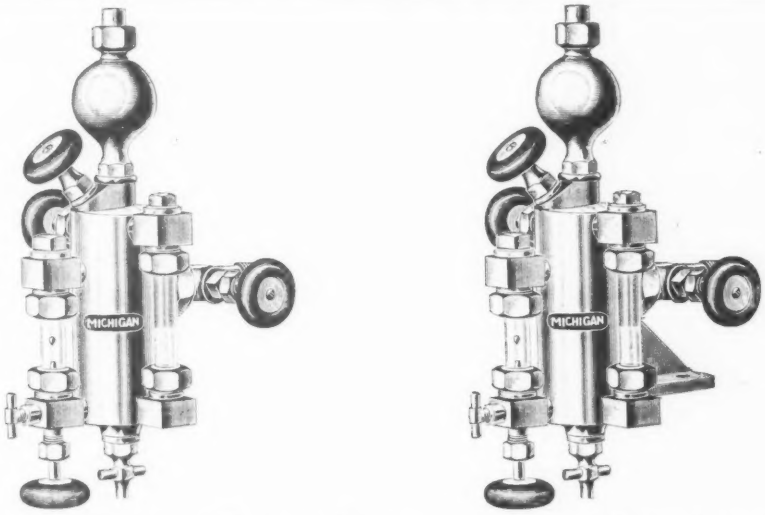
The Aldrich Pump Co.

Chicago No. 5 Allen St. Pittsburgh

Allentown, Pa., U. S. A.

Michigan Brass Goods:

"The Guaranteed Kind"



Michigan Cyclone Lubricators are all year lubricators

This Lubricator is of the hydrostatic type which we believe has many points of superiority over the force feed lubricator. The Hydrostatic is less expensive in first cost and has a great many less parts. It is simple in operation and has no moving parts to wear out or get out of adjustment.

Our Cyclone Lubricator has, built into the body, a large steam chamber which keeps even the heaviest oil in a liquid state. This insures positive steady feeding regardless of outside temperatures.

The Michigan Cyclone has been on the market for over thirty years and has rendered efficient service to all who have used it. Put one on your engine and guarantee your cylinder lubrication.

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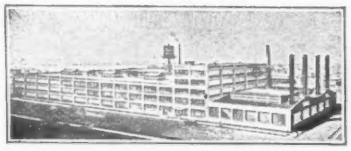
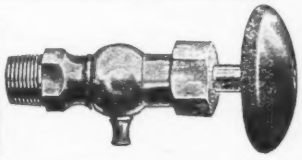
Michigan Lubricator Co.

Beaubien, Brady and Rowena Streets

Detroit : : : : : Michigan

MA-45





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*Medart Patent Pulley Co.
*The Ohio Valley Pulley Works.
*Reeves Pulley Co.

PUMPS, AIR
F. E. Myers & Bro.

PUMPS, ELEVATOR
The Aldrich Pump Co.
F. E. Myers & Bro.

PUMPS, HAND AND WINDMILL
F. E. Myers & Bro.

PUMPS, HYDRAULIC PRESSURE
The Aldrich Pump Co.
F. E. Myers & Bro.

PUMPS, JET
*American Injector Co.
*Penberthy Injector Co.

PUMPS, MINE
The Aldrich Pump Co.
F. E. Myers & Bro.

PUMPS, OIL
*Detroit Lubricator Co.
*Penberthy Injector Co.

PUMPS, POWER, BELT AND MOTOR DRIVEN
The Aldrich Pump Co.
F. E. Myers & Bro.

PUMPS, TANK
The Aldrich Pump Co.
F. E. Myers & Bro.

PUMPS, VACUUM
The Aldrich Pump Co.

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The Aldrich Pump Co.

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RASPS
*Delta File Works.
*Nicholson File Company.

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REAMERS
*Detroit Twist Drill Co.

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*Medart Patent Pulley Co.
*T. B. Wood's Sons Co.

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*Waterbury Company.

ROPE, WIRE, FIBRE AND SISAL (ALL KINDS)
*Waterbury Company.

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*General Asbestos & Rubber Co.
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*Jenkins Bros.
*The B. F. Goodrich Co.
*New York Belting & Packing Co.

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*Dodge Sales & Engineering Co.

SAFETY SHAFT COLLARS
*Dodge Sales & Engineering Co.
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*E. C. Atkins & Co., Inc.

SAWS, BAND
*E. C. Atkins & Co., Inc., (for wood and metal)
*The Crescent Machine Co.
*Simonds Mfg. Co.

SAWS, CIRCULAR
*E. C. Atkins & Co., Inc.
*Simonds Mfg. Co.

SAWS, CROSSCUT AND RIP
*E. C. Atkins & Co., Inc.
*Simonds Mfg. Co.

SAWS, HACK
*AAA—E. C. Atkins & Co., Inc.
*Simonds Mfg. Co.
The L. S. Starrett Co.

SAWS, SWING, CUT-OFF
*The Crescent Machine Co.

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"Pexto"—The Peck, Stow & Wilcox Co.

SCREW MACHINE PRODUCTS
*Standard Pressed Steel Co.

SCREWS, SAFETY SET
*"Standco"—Standard Pressed Steel Co.

SEPARATORS, OIL AND STEAM
*"Cookson"—The D. T. Williams Valve Co

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*Dodge Sales & Engineering Co.
The Carlyle Johnson Machine Co.
*Medart Patent Pulley Co.
*Royersford Foundry & Machine Co.
Somers, Fitler & Todd Co.
*Valley Iron Works.

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*Dodge Sales & Engineering Co.
*Medart Patent Pulley Co.
*The Moore & White Co.
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93-29

Keep your basement dry at all times

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AUTOMATIC - CELLAR - DRAINER

will do this automatically — without the least attention from an attendant.

Always primed, ready to start instantly.

All working parts above water.

Costs less, takes up less room, lasts longer than other drainers.

115 to 6,500 gallons per hour.

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(ESTABLISHED 1886)

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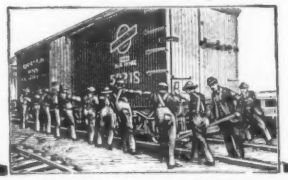
One Man or a Dozen?

What concern wouldn't invest$5.00 to save 11 men's time and wages. The **ATLAS Car Mover** is the best and most powerful device ever made for starting and moving loaded cars by hand. Its compound leverage exerts a double leverage of tremendous force. Many other good points.

The **ATLAS** is a quick, sure, profitable seller



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APPLETON CAR-MOVER COMPANY

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PORTER'S BOLT CLIPPERS

EASY-NEW EASY-ALLEN RANDALL

3 Styles—5 Sizes

30 YEARS' EXPERIENCE BENEFIT OF BUYER

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THE GOODS FOR WHICH THERE IS A DEMAND

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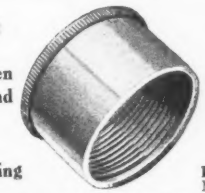
"Golden Rule" Grease Cup

STEEL AND IRON

Perfect Fit Between Top and Base

No Wobbling



Drawn Steel Top
Malleable Iron Base

A Clean Die-Cut Thread on Shank

W. D. ALLEN MFG. CO. 566-570 W. Lake St. CHICAGO, ILL.

MASON

Reducing Valves

ARE STANDARD

Do You Carry Them in Stock?

MASON REGULATOR CO.
BOSTON, MASS.

COLUMBIAN

Sledge-Tested VISES

THE only hollow-jawed malleable iron vises made. Will not chip, crack or or break. Renewable steel jaw faces. Complete line.

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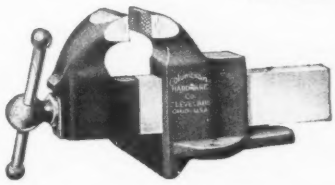

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Cleveland, Ohio

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Backed by

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STANDARD IRON MOTOR PULLEYS FROM 1½ TO 12 INCH DIAMETER

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Link-Belt Company
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Pyott Co.
"Rex"—Chain Belt Company

SQUARES, STEEL
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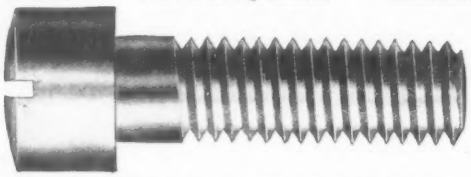
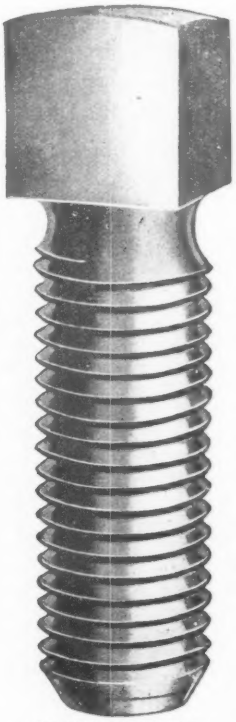
"STANDCO" HOLLOW SET HEX AND SQ. HOLES
OVAL POINT HEADLESS SET

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Manufactured by
STANDARD PRESSED STEEL CO.
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A Positive Necessity in Every Plant

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Write for FREE sample, catalog and prices

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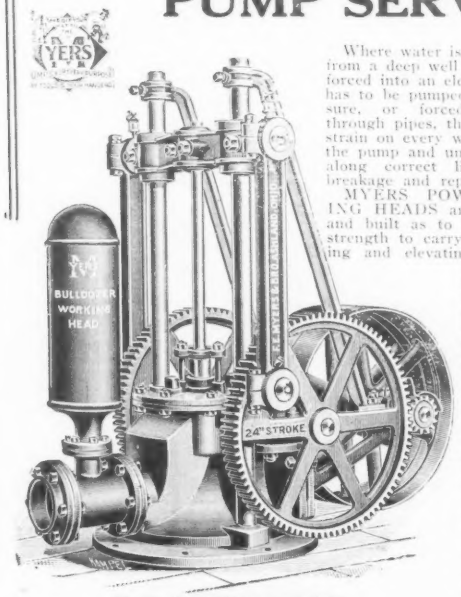

Where water is to be pumped from a deep well or cistern and forced into an elevated tank, or has to be pumped against pressure, or forced a distance through pipes, there is a heavy strain on every working part of the pump and unless it is built along correct lines continual breakage and repairs result.

MYERS POWER WORKING HEADS are so designed and built as to have sufficient strength to carry both the lifting and elevating or pressure strain. They have double machine cut gears and heavy side arms, strong base, large bolts and heavy pinions, and other important essentials in correct pump construction, which insure long and dependable pumping service.

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Pumps for Every Purpose.

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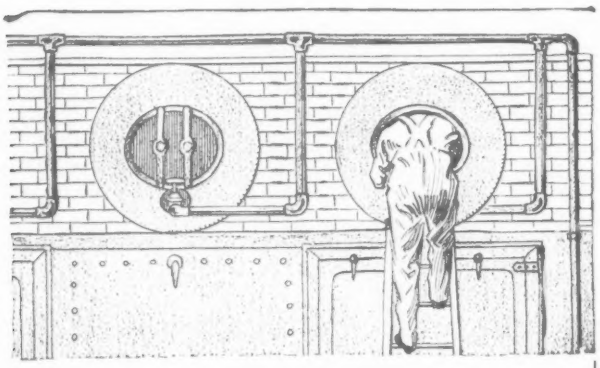

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will form in boilers in spite of you or your compounds; and you spend too many days each year trying to hammer it out.

Is it not more sensible to impregnate the scale with tiny flakes of graphite, so as to make the scale brittle and easy to remove with cleaning tools? A great many engineers are saving from 50 percent to 75 percent of the former cost of boiler cleaning by using

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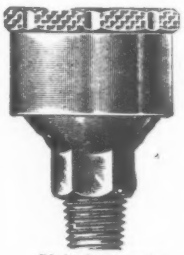

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Successors to BOWEN MFG. CO.
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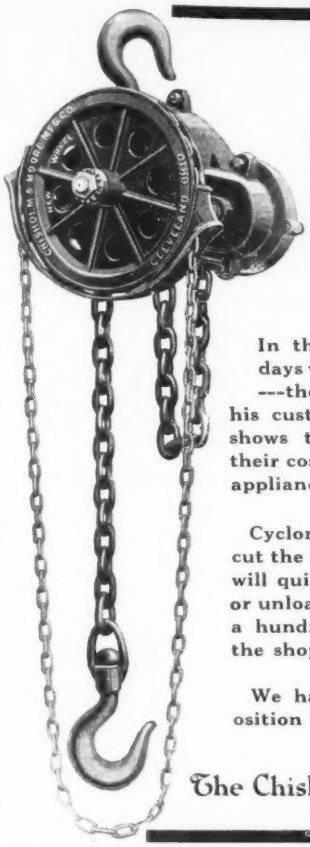

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In the days to come---in the days when competition is keen ---the dealer who best serves his customers is the one who shows them how they can cut their costs by using labor-saving appliances.

Cyclone Hoists will definitely cut the costs in many ways. They will quickly feed machines, load or unload cars, pile stock and do a hundred and one jobs about the shop.

We have an attractive proposition for dealers. Write for it.

The Chisholm-Moore Mfg. Co.
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Accurate and sensitive; base has concaved groove through length of level with flat margin on each side. This improves seat on flat work and forms true and reliable seat for shafting, etc.

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The products of our manufacture include Lace Leather, Cut Lacing, Round and Twist Belting, Hydraulic Packings, Leather Specialties, etc.

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If made of leather for mechanical purposes, we make it.

37 MANUFACTURING DEPTS.

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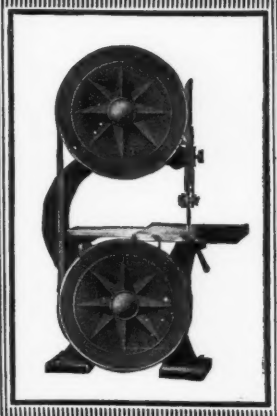

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THE CRESCENT MACHINE CO.
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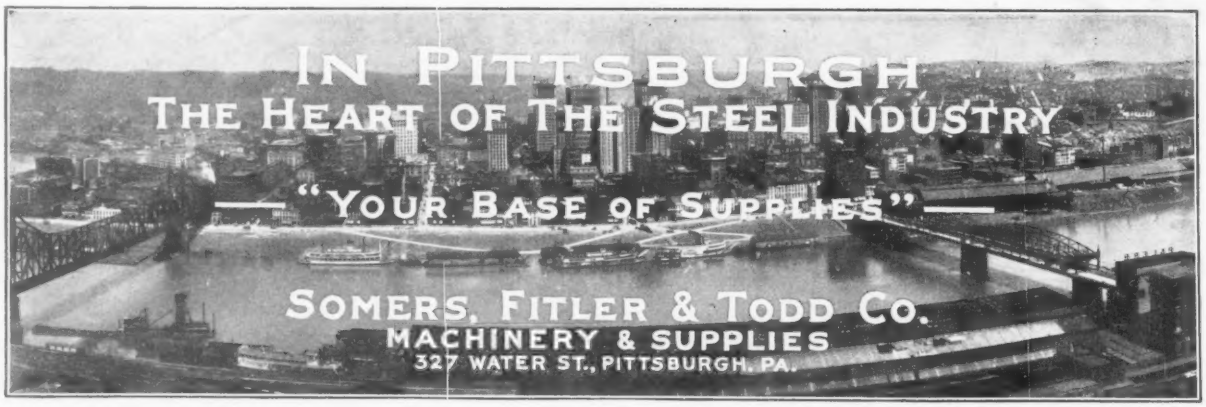

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Accurate Workmanship - *Many Styles and Sizes*

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Our Catalog No. 11C will show you.

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You can gauge my calibre from my "references"—names on request.

"Pulled a plant 27 years and still running."

"Running two main drives for 14 years—another for 20 years—same plant."

"On the job continuously for 20 years and still doing good work."

"Giving service that can't be obtained from leather."

"Excellent service on the hardest drives known"—etc. etc.

Power or Conveyor—I'm made in a size and ply to fill all jobs—and *get all the pull from the pulley.*

Send the word to Mill Supply House or Home Plant direct—and I'll report for duty promptly.

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